



Spotlight

Short-term Scientific Mission by Early Stage Researcher Claudia Dussaubat

In 2010 doctoral student Claudia Dussaubat from INRA France travelled to the laboratory of Drs. Mariano Higes and Raquel Martín-Hernández at the Bee Pathology Laboratory, Centro Apícola Regional, JCCM in Spain to perform a Short-term Scientific Mission (STSM). The focus of her STSM was the gut parasite *Nosema ceranae*.

Over the last half decade *N. ceranae* has received considerable attention because its first detection in European honey bees came at a time of elevated colony losses in many regions of the world. Although recent studies have shed more light on the *N. ceranae*-honey bee system, controversy still surrounds the exact role of the parasite in colony mortality because it appears that the impact may differ among geographic regions (e.g. areas in Spain versus France).



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Claudia went to Spain to test the hypothesis that honey bee response to *N. ceranae* is the result of strain-specific differences in virulence exhibited by parasites originating from different geographic regions. Comparing *N. ceranae* from Spain and France, she found similar genetic variability, and when laboratory assays were performed using Spanish *Apis mellifera iberiensis* honey bees, she found similar infection levels and host effects. This suggests, at least for the *N. ceranae* isolates studied, that there was no specific genetic background of the two isolates, and that additional genetic and environmental factors, such as honey bee subspecies-specific differences in disease resistance, are likely responsible for regional variability of parasite virulence.

Her work was recently accepted for publication in the journal *Veterinary Microbiology*.

Dussaubat, C., Sagastume, S., Gómez-Moracho, T., Botías, C., García-Palencia, P., Martín-Hernández, R., Le Conte, Y., Higes, M. (2013). Comparative study of *Nosema ceranae* (Microsporidia) isolates from two different geographic origins. *Veterinary Microbiology*, in press. <http://dx.doi.org/10.1016/j.vetmic.2012.09.012>

Claudia's contribution is a great example of the various contributions of COLOSS Early Stage Researchers to honey bee science, and particularly highlights the great time and effort that is required of researchers to plan and perform their studies, and ultimately publish their results.

COLOSS also congratulates Claudia for successfully defending her doctoral thesis!