

Ph.D. THESIS PROPOSAL - INRAE TOULOUSE, FRANCE

Evolutionary History and Conservation Genomics of Black Honey Bees

Background Honey bees play a key role in our environment and in our food production systems. Modern beekeeping has however deeply altered the natural distribution of this species. In particular, *Apis mellifera mellifera*, the black honey bee subspecies initially present in Metropolitan France, has gradually been replaced by subspecies better adapted to modern beekeeping, such as the yellow bees.

Project We propose to investigate the standing genetic diversity of black honey bees in order to evaluate current conservation strategies. This project will cover three main objectives: (i) to characterize genetic structure for current black bees populations in France, in order to better identify conservation units, (ii) to reconstruct the history of admixture between black and yellow bees, and (iii) to assess the deleterious mutation loads in order to evaluate the effectiveness of the current conservation strategies.

Supervision Thibault Leroy (BeeGEES team, UMR GenPhySE) & Pierre Faux (CHAMADE team, UMR GenPhySE)

Location UMR GenPhySE, INRAE Occitanie-Toulouse, Castanet-Tolosan

Funding scholarship awarded by the doctoral school (competition)

For more information please contact both Thibault Leroy (thibault.leroy@inrae.fr) and Pierre Faux (pierre.faux@inrae.fr).



