Interested in a project in bee genomics?

Matthew Webster's lab at Uppsala University uses next generation sequencing to study evolution, population genetics, functional genomics and conservation of biodiversity in bees. We are funded by Vetenskaprådet, Formas, Horizon Europe and Naturvårdsverket.

A master's project is currently available with the goal of analysing evidence for a newly-discovered cryptic bumble bee species. Our group has performed extensive sampling and whole-genome sequencing of mountain bumblebee populations in the Rocky Mountains USA. Surprisingly, we identified an unexpected genetic cluster, indicative of a previously unrecognised cryptic species. Our results are reported in Christmas et al. 2021, 2022. We have now performed sequencing of additional samples with the aim of identifying specimens that belong to this species and then describing them with the help of experts. This work will contribute to the description of a new species. The master's student will be required to perform processing, phylogenetic and genetic clustering analysis of sequences that we have already generated in order to define which species each specimen belongs to and contribution to writing scientific manuscripts.

Christmas et al 2021:
https://academic.oup.com/mbe/article/38/8/3126/6199435

Christmas et al 2022:
https://onlinelibrary.wiley.com/doi/full/10.1111/mec.16291

In addition, we are always interested to hear from students interested in projects on topics of interest to the lab. A number of projects for master's students are possible which would be suitable for students interested in bioinformatics, lab work, and/or field work. Please visit our web site to learn about our research: www.websterlab.net

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