Genetic differentiation in honey bees Apis mellifera:
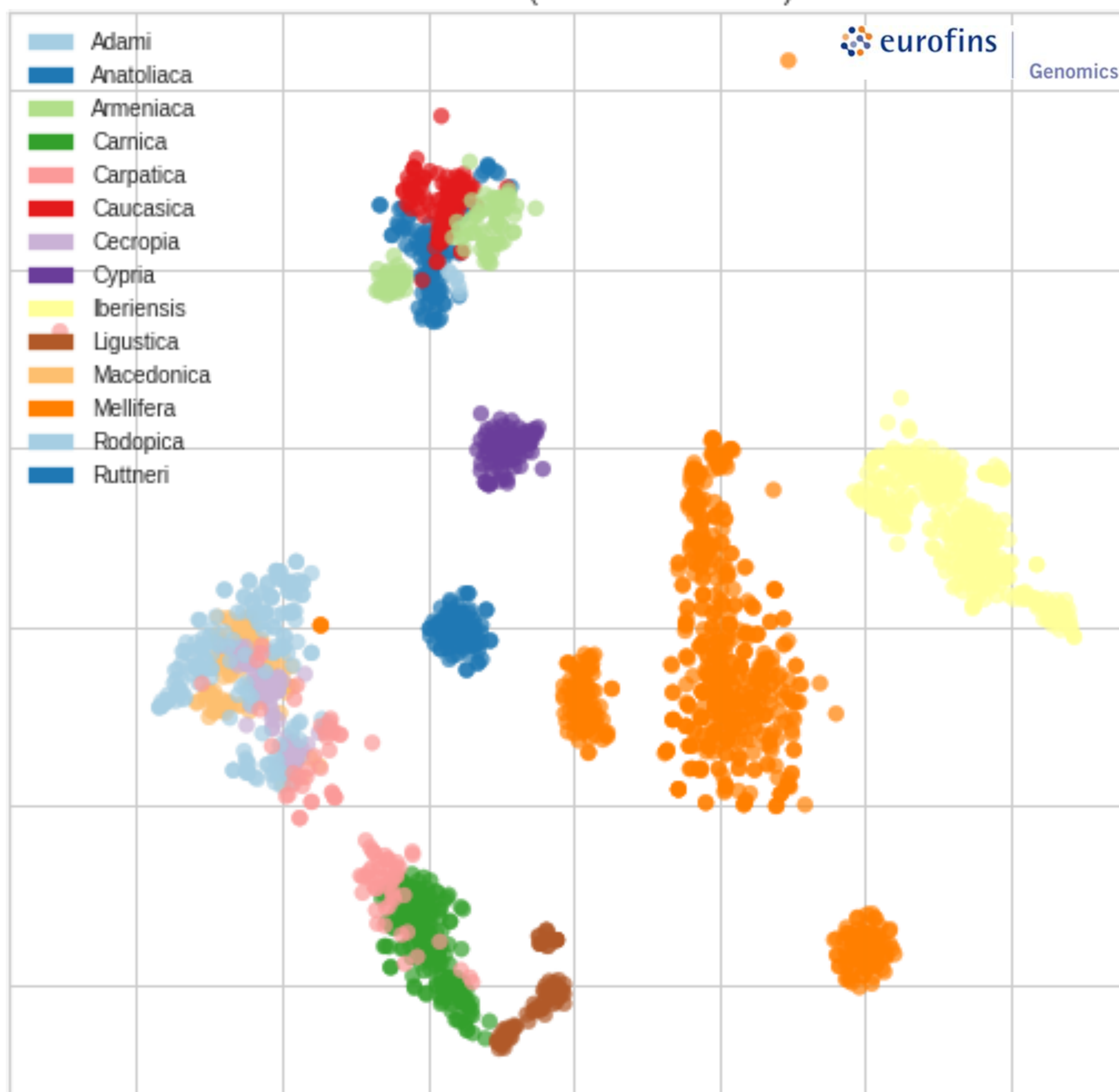## A new tool for subspecies conservation and breeding

t-SNE Manifold (fit in 162.22 seconds)

Legend:
- Adami
- Anatoliaca
- Armeniaca
- Carnica
- Carpatica
- Caucasica
- Cecropia
- Cypria
- Iberiensis
- Ligustica
- Macedonica
- Mellifera
- Rodopica
- Ruttneri

eurofins
Genomics

On the graph on the left 3000+ honey bees collected across Europe are differentiated into subspecies and local ecotypes using the 4000+ SNPs developed in SmartBees.

In the top a cluster of samples consisting of O-lineage bees, to the right M-lineage bees, to the left C-lineage bees and central the A-lineage bees. Subspecies that appear in close proximity are related, but also some subspecies appear differentiated, especially the *A m mellifera* bees in orange. The status of Carpatica and Rodopica bees is unresolved.

Please refer also to the poster 2.19 by Melanie Pajero and the talk by Per Kryger in the session Beekeeping with local and ingenious bees, on Thursday at 14:45. The Eurofins booth offers information on the SNP-chip shown above

Per Kryger, Melanie Parejo, Jamal Momeni,
Rasmus O. Nielsen, Jorge Langa,
Iratxe Montes, Laetitia Papoutsis,
Leila Farajzadeh, Rikke Vingborg,
Maria Bouga, Andone Estonba,
Marina Meixner
and our many kind
SMARTBEES DIVERSITY
COLLABORATORS.
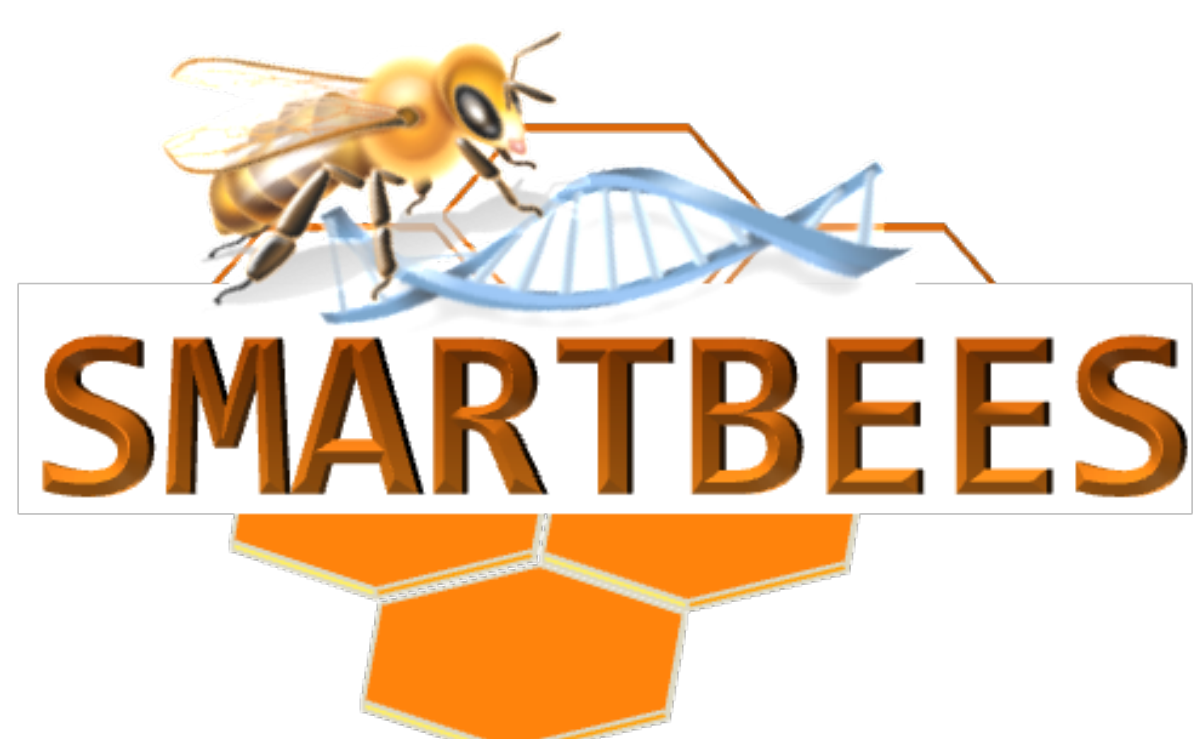
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