

ASSOCIAÇÃO PORTUGUESA DE BIOLOGIA EVOLUTIVA  
PORTUGUESE ASSOCIATION OF EVOLUTIONARY BIOLOGY



## POSTER 18

Does geometric morphometrics provide congruent results with SNP data? The case of Iberian honey bee (*Apis mellifera iberiensis*)

Dora Henriques (CIMO); Júlío Chávez-Galarza (CIMO; Universidad Nacional de Cañete); Juliana S. G. Teixeira (Faculdade de Filosofia, Ciências e Letras de Ribeirão Preto, Universidade de São Paulo); Helena Ferreira (CIMO); Cátia Neves (CIMO); Tiago Franco (Faculdade de Filosofia, Ciências e Letras de Ribeirão Preto, Universidade de São Paulo); M. Alice Pinto (CIMO).

While molecular markers are usually preferred to infer population structure, geometric morphometrics is a cheap method that has been widely applied to the wings of female honey bees to identify subspecies or lineages and can be used alternatively or complementarily to molecular markers. However, the power of geometric morphometrics to capture the signature of complex evolutionary processes has not been tested in honey bees. In this study, we applied geometric morphometrics, combined with geographical information, to the right forewings of female individuals from 711 colonies distributed along the Iberian Peninsula, which contains a complex population structure. The results were further compared with those obtained using 383 SNPs. Our data showed that geometric morphometrics provided a similar spatial structure of SNPs data ( $r=0.90$ ). Our findings reinforce the power of spatially explicit wing geometric morphometrics data to capture the signature of complex evolutionary processes. Thus, this method could be used as a low-cost alternative for preliminary estimation of population structure.