P174. *Bactrocera dorsalis* (Diptera: Tephritidae) in the Indian Ocean: a tale of two invasions

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An increasing number of invasive fruit fly pests are colonizing new grounds. With this study we aimed to uncover the invasion pathways of the oriental fruit fly, *Bactrocera dorsalis* into the islands of the Indian Ocean. By using genome wide SNP data and a multi-pronged approach consisting of PCA, ancestry analysis, phylogenetic inference and kinship networks, we were able to resolve two independent invasion pathways. A western invasion pathway involved stepping-stone migration of *B. dorsalis* from the east African coast into the Comoros, along Mayotte and into Madagascar with a decreasing genetic diversity. The Mascarene islands (Reunion and Mauritius) on the other hand were colonized directly from Asia and form a distinct cluster. The low nucleotide diversity suggests that only a few genotypes invaded the Mascarenes. The presence of many long runs of homozygosity (ROH) in the introduced populations are indicative of population bottlenecks, with evidence of a more severe bottleneck for populations along the western migration pathway than on the Mascarene islands. More strict phytosanitary regulations are recommended in order to prevent further spread of *B. dorsalis*

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