

Elongation Factor 1 Alpha Molecular Phylogenetic Analysis for *Anastrepha fraterculus* Complex

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Abstract : Exotic, invasive tephritid fruit flies (Diptera: Tephritidae) are a major concern to fruit and vegetable production in the USA. Timely detection and identification of these agricultural pests facilitate the possibility of eradication from newly invaded areas. They spread primarily as larvae in infested fruits carried in commerce or personal baggage. Identification of larval stages to species level is difficult but necessary to determine pest loads and their pathways into the USA. The main focus of this study is the New World genus, *Anastrepha*. Many of its constituent taxa are pests of major economic importance. This study is significant for national quarantine use, as morphological diagnostics to separate larvae of the various members remain poorly developed. Elongation factor 1 alpha sequences were amplified from *Anastrepha fraterculus* specimens collected from South America (Ecuador and Peru). Phylogenetic analysis was performed to characterize the *Anastrepha fraterculus* complex at a molecular level.

Keywords : *anastrepha*, diptera, elongation factor, fruit fly

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