

Genetic diversity of *Bactrocera dorsalis* captures in California

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Abstract

The oriental fruit fly (OFF), *Bactrocera dorsalis*, is an invasive pest of fruits that can develop in and damage over 230 plant species. The species originated in Asia but has established populations on islands in the Pacific including Hawaii. OFF is capable of further spreading to subtropical areas of United States and is frequently detected and eradicated in California. By understanding the geographic source of the fruit fly outbreaks in California it might be possible to shut down introduction pathways into the state and prevent its movement into other fruit producing regions of the US. In a previous study, Barr et al. (2014) used mitochondrial DNA to determine if Hawaii was a likely source of flies trapped in California from 2008 to 2012. In the current study we applied that methodology to flies trapped in California in 2013. Results demonstrate that genetic diversity in the 2013 collection is consistent with a multiple source introduction model and Hawaii can be excluded as the likely source for the majority of captured flies.