

# DRAFT: Gulf Fritillary Butterfly, *Agraulis vanillae* (Lepidoptera: Nymphalidae)

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Figure 1: Gulf fritillary butterfly, Apra Harbor, Guam, November 10, 2018. Image courtesy of Brian Schaible.



Figure 2: Gulf fritillary caterpillar, Port Authority Beach, Apra Harbor, Guam, January 10, 2019. Image courtesy of Ken Puliafico.

## Initial Discovery

**November 6, 2018.** Three adults of *Agraulis vanillae*, the gulf fritillary butterfly, were observed for the first time on Guam by Brian Schaible at Apra Harbor. Initial identification was made by Schaible and confirmed by Moore based on images (Fig. 1). The observation was documented on the iNaturalist web site [3] and included in the Insects of Micronesia Project.

**January 5, 2019.** Ann Colt reported an observation of *A. vanillae* at San Luis Beach, Guam. This observation was documented with an image.

**January 10, 2019.** Ken Puliafico collected 10 specimens of gulf fritillary butterfly adults and one caterpillar.

**January 14, 2019.** Brent Tibbatts forwarded me 3 images of *A. vanillae* observed in Agat, Guam.

**January 17, 2019.** A short article on *A. vanillae* with images was posted on the Guam Department of Agriculture, Biosecurity Division Facebook site [4]. A member of the public, Margaret S. N. Cruz, commented with an image of *A. vanillae* she took at the Veteran's Cemetery on January 1, 2019.

**January 22, 2019.** A newspaper article entitled *Non-Native Butterfly Spotted on Guam* was published in the Guam Post [2].

## Host Plants

Caterpillars feed on Passifloraceae, Tiliaceae, and Caprifoliaceae [1]. There are several species of introduced Passifloraceae which are common weeds on Guam. There is at least one farmer growing passionfruit as a crop, but several organic and conventional treatment options are available.



Figure 3: Guam *Agraulis vanillae* observations posted on the iNaturalist web site. ([https://www.inaturalist.org/observations?place\\_id=96888&taxon\\_id=49150](https://www.inaturalist.org/observations?place_id=96888&taxon_id=49150)).

## Geographic Range

The native range of *A. vanillae* is South America north through Central America, Mexico, and the West Indies to the southern United States [5].

This species was first detected in the Hawaiian Islands on Oahu in Jan. 1977 [6] and quickly spread to neighbor islands: Maui (Feb. 1978), Kauai (June 1978), Lanai (Dec. 1978), Big Island (1980) [7].

This fact sheet documents the first discovery of *A. vanillae* in the eastern hemisphere.

An interactive map displaying more than 12,000 georeferenced occurrence records for *A. vanillae* is available on the Global Biodiversity Information Facility (GBIF) web site [8]. Note that Schaible's initial observation is on the map because GBIF harvests iNaturalist *research grade* records.

## Discussion

Very limited data indicates that the Gulf fritillary is well established on the western coast of Guam from Piti in the North to Agat in the South.

The general public are encouraged to participate in a delimiting survey. The best way to participate is to post observations with digital images to the iNaturalist web site (<https://www.inaturalist.org>).

The Guam Department of Agriculture Biosecurity Division may be contacted for information on this and other invasive species through their invasive species phone hotline at 475-PEST(7378) or via their Facebook page at <https://www.facebook.com/guam.biosec/>.

People are also asked to be on the lookout for another nymphalid butterfly, the Pacific leafwing, which was first detected on Guam during 2017 [9].

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