

### An Indigenous Outbreak of Dengue Fever in Toubiankeng's Orchards, Taiping District, Taichung City, 2018

Min-Tsung Lin<sup>1</sup>, Yu-Chun Chang<sup>1</sup>, Chin-Gi Huang<sup>2</sup>, Kung-Ching Wang<sup>1</sup>,  
Pei-Fang Lai<sup>1</sup>, Pi-Long Liu<sup>1</sup>, Ching-Fen Ko<sup>1,3\*</sup>

#### Abstract

In 2018, an indigenous outbreak of dengue fever (DF) occurred in Taichung City. Among the DF-confirmed cases, 16 cases were related to Toubiankeng's orchards located in Taiping District, Taichung City.

The epidemiologic investigation found that 16 cases had spatial relationships, and the identified causative type 1 dengue viruses shared similar genomic sequences in some cases, thus confirming the DF outbreak. The epidemic origin was likely due to an unknown asymptomatic case who transmitted the disease to inhabitants or farmers in orchards by *Aedes albopictus*.

Because the orchards are located in a mountainous area and the passages are narrow, it was difficult to eliminate the breeding sites and implement chemical control. Therefore, more manpower was needed to control the outbreak.

From October 23 to November 16, 2018, Taiwan Centers for Disease Control and Taichung City Government mobilized 563 person-times to eliminate breeding sites, execute chemical control, and assess the effectiveness of vector control measures. We believe that a complete control plan, including chemical control, reducing adult

<sup>1</sup>Central Region Center, Centers for Disease Control, Ministry of Health and Welfare, Taiwan

<sup>2</sup>National Mosquito-Borne Diseases Control Research Center, National Health Research Institutes, Taiwan

<sup>3</sup>Department of Public Health, Tzu Chi University, Taiwan

Corresponding author: Ching-Fen Ko<sup>1,3\*</sup>

E-mail: koko@cdc.gov.tw

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mosquitoes' density, contact tracing, DF testing to find the case early, and restricting public access to the orchards, was the key to controlling this outbreak successfully. In this article, we describe the DF outbreak in orchards and make recommendations to deal with similar situations in the future.

**Keywords:** indigenous, dengue fever, eliminate breeding sites, chemical control, restriction of access