

Red palm weevils can fly 50 kilometers in 24 hours

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Male red palm weevil (*Rhynchophorus ferrugineus*). Credit: John Kabashima, UC Cooperative Extension, Bugwood.org.

The red palm weevil (*Rhynchophorus ferrugineus*) has been a pest of coconut palms in Thailand, Vietnam, Cambodia, Sri Lanka, and the Philippines for a long time. More recently, it's become a pest of 40 different palm species in the Middle East and North Africa after it was found there in the 1980s.

In order to learn more about their flight capabilities and to predict their future dispersal, scientists from California and Saudi Arabia captured

192 adult weevils and tethered them to computerized flight mills. About 30 percent flew less than one kilometer, but nearly 40 percent were able to fly more than 10 kilometers, and some were able to fly more than 50 kilometers in just 24 hours. The results are published in the *Journal of Economic Entomology*.

In addition to measuring the distances flown, the researchers also measured the weight loss of each insect after its flight, and they recorded when the insects were most likely to fly.

Weevils flying in the summer flew the longest average distances (25-35?km) and exhibited the highest weight reductions, and they had the highest mortality rates. Flight activity was predominantly diurnal, commencing around 5:00 a.m. and peaking between 9-11:00 a.m. before tapering off.

While the authors acknowledge that flight mill studies may have shortcomings because tethered insects fly differently from untethered insects in the field, they can still be useful research tools for quantifying basic attributes such as flight bout frequency and duration, distance flown, flight velocity, and flight periodicity. Such information may help with the development of detection, monitoring, containment, and control plans.

The use of dispersal data from [flight](#) mill studies could assist with the design and implementation of monitoring boundaries, which may maximize the likelihood of detecting weevils capable of [long-distance dispersal](#), which would assist with the development of containment and eradication programs when new infestations are detected.

More information: M. S. Hoddle et al. How Far Can the Red Palm Weevil (Coleoptera: Curculionidae) Fly?: Computerized Flight Mill Studies With Field-Captured Weevils, *Journal of Economic Entomology*

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