

An Analysis of Arthropod Interceptions by APHIS-PPQ and Customs and Border Protection in Puerto Rico ^[1]

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Ninfa del psílido asiático de los cítricos (*Diaphorina citri*). Este insecto enferma las plantas con huanglongbing o “citrus greening”.

An Analysis of Arthropod Interceptions by APHIS-PPQ and Customs and Border Protection in Puerto Rico

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USDA Animal Plant Health Inspection Service Plant Protection and Quarantine (APHIS-PPQ) and Customs and Border Protection (CBP) inspect traffic entering the United States for arthropods posing a threat to national agriculture or ecosystems. We analyzed interceptions made by these agencies in Puerto Rico and the U.S. Virgin Islands between October 2006 and December 2009 for patterns with regard to the frequency of interceptions, origins of interceptions, and the taxa intercepted. 6,952 arthropods were intercepted in freight or luggage entering Puerto Rico and the U.S. Virgin Islands from foreign countries and 9,840 arthropods were intercepted

from freight or luggage leaving Puerto Rico or the U.S. Virgin Islands destined for mainland U.S. Most (77%) of the arthropods intercepted entering Puerto Rico were intercepted in freight or luggage originating within the Caribbean. Most intercepted arthropods were in the order Hemiptera (52% of all interceptions), followed by Diptera (16%), Coleoptera (10%), Lepidoptera (8%), Thysanoptera (5%), Acari (4%), and Hymenoptera (2%). Intercepted arthropods from foreign countries were more equitably spread among orders, whereas 89% of the arthropods intercepted from Puerto Rico and the U.S. Virgin Islands were in the orders Hemiptera and Diptera. Hemiptera made up 28% of the interceptions from foreign countries, but 69% of the interceptions made from Puerto Rico and the U.S. Virgin Islands. Only 7 of 28 adventive arthropods recently established in Puerto Rico were intercepted during this study, and these were intercepted at relatively low frequency (between 3 and 132 interceptions; mean of 35 interceptions). We present data suggesting

that most adventive arthropods that occur in both Puerto Rico and Florida established in Florida first, likely due to less stringent or non-existent import inspections for traffic coming into Puerto Rico from the U.S. Finally, we highlight several adventive arthropods that have recently established in Puerto Rico and discuss what we can learn from these invaders.

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