What bugs are knocking on New Zealand's doors? An analysis of ten years of border interception data

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Thousands of organisms are intercepted at New Zealand's borders every year. To have a full picture of these interceptions we analysed MAF's Laboratory Information Management System (LIMS) databases from 1 Jan 2001 through 31 Dec 2011. Of more than 36,500 organisms intercepted, 94.4% were from the following top ten taxa categories: mites (Acari, 24.9%), insects (Hemiptera, 21.1%; Diptera 16.0%; Coleoptera, 7.4%; Hymenoptera, 6.8%; Lepidoptera, 6.5%; Thysanoptera, 4.6%; and Neuroptera, 1.4%), spiders (Araneae, 3.9%) and snails and slugs (Gastropoda, 1.8 %). They were found mainly (in decreasing order) on taro (Colocasia esculenta), banana (Musa spp.), orange (Citrus sinensis), rockmelon (Cucumis melo), lime (Citrus aurantiifolia & latifolia), yam (Dioscorea atata), pineapple (Ananas comosus), ginger (Zingiber officinale), capsicum (Capsicum annuum) and asparagus (Asparagus officinalis) imported from Australia, Fiji, USA, Phillipines, Ecuador, Tonga, Samoa, Japan, Chile and Canada. The relationship between the ten taxa categories, their origins and hosts was consistent with a few minor variations between years. This analysis may provide insight into the prediction of interceptions for border quarantine management.