

Evaluation of the presence of HLB in Rutaceae in nature reserves in Misiones, Argentina

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The disease Huanglongbing (HLB) is currently the most serious threat for Argentina's Citrus industry. Early diagnosis of affected tissues requires conventional molecular methods, polymerase chain reaction (PCR) or quantitative real time PCR (qPCR), due to the inability to grow any of the bacteria involved in the disease etiology: *Candidatus Liberibacter asiaticus* (CLas), *africanus* (CLaf), and *americanus* (CLam). Because HLB is incipient in Argentina eradication of all infected plants is recommended, however the presence of HLB in wild plants cannot be ruled out or has not been locally studied. The aims of this study were to localize native and feral Rutaceae in forested areas of Misiones province, characterize suspicious symptoms associated with HLB, and identify the presence of vector (*Diaphorina citri* Kuwayama) and its parasitoids. After two sampling campaigns performed during August/October of 2016 spanning more than 20 conserved areas in Northern and Central part of Misiones, we found neither HLB positive plants nor presence of adults or immature psyllids stages within the provincial nature reserves. All HLB positive plants identified were located nearby backyards and citrus commercial plots, which indicates a strictly anthropogenic influence for HLB spreading in that area. Forestry parks of Misiones appear a complicated place for HLB settling because extremely low population level of vector. From several species of Citrus identified, the most abundant were Rangpur lime (*C. limonia* Osbeck) and Criolla tangerine (*C. reticulata* Blanco), which are widely distributed in all parks surveyed. Several other native Rutaceae which cohabit with feral Citrus were identified: *Helietta apiculata* Benth, *Fagara rhoifolium* Lam., *Balfourodendron riedelianum* (Engl.) Engl., *Esebeckia grandiflora* Mart. Samples tested from native Rutaceae were also negative for CLas/CLam. All feral Citrus located in conserved areas of Misiones represent a remarkable source of germplasm for future breeding programs.