

Two New Hosts of *Oligonychus punicae* (Acari: Tetranychidae) in Northeastern Mexico: *Trichilia havanensis* (Meliaceae) and *Pithecellobium dulce* (Fabaceae)¹

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Mites and insects are commonly encountered pests in urban landscapes and can cause serious damage to their plant hosts (Hernández-Juárez et al. 2018, Southwest. Entomol. 43:1047–1050; Monjarás-Barrera et al. 2017, Southwest. Entomol. 42: 1103–1106). The family Tetranychidae is one of the five most agriculturally important families of phytophagous mites (Aguilar and Murillo 2012, Agron. Costarricense 36: 11–28; Soler-Salcedo and Ferragut 2006, Bol. San. Veg. Plagas 32: 523–534). *Oligonychus punicae* Hirst (Acari: Tetranychidae) has been reported on 34 plant hosts and is distributed in 22 countries including Mexico. In Mexico, *O. punicae* has been reported on different plant species (Migeon and Dorkeld 2019, <http://www.montpellier.inra.fr/CBGP/spmweb>, accessed 20 April 2019), and its feeding causes a tan coloration in leaves that reduces photosynthetic activity and, in high population densities, can cause severe defoliation (Vásquez et al. 2008, Exp. Appl. Acarol. 45: 59–69).

Trichilia havanensis Jacq. (Meliaceae) is widely distributed in Mexico and has insecticidal effects (García-Gómez et al. 2018, Fla. Entomol. 101: 470–479). It is used as an ornamental tree, but its wood is used for construction and in religious ceremonies and artisan figures. Extracts also provide edible oils and human and veterinary medicines (Rzedowski and Guevara-Féfer 1993, Instituto de Ecología A.C., 22 pp.). *Trichilia havanensis* has been reported as host of different species of mites in Costa Rica (*Tenuipalpus rhyssus* Barker & Pritchard [Mairena and Ochoa 1989, Manejo Integrado Plagas 11:75–80] and *Oligonychus yothersi* McGregor [Aguilar and Murillo 2008, Agron. Costarricense 32: 7–28]) and in South and North

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Africa and Central America (*Brevipalpus obovatus* Donnadieu [Childers et al. 2003, Exp. Appl. Acarol. 30: 29–105]).

Pithecellobium dulce (Roxb.) Benth. (Fabaceae) is native to the Americas and is distributed from California to Colombia and Venezuela. It has multiple uses: as food or fodder; in adhesives, aromatics, dyes, medicines; for its meliferous flowers; for construction; and as firewood and coal. In Mexico, fresh beverages, gruel, and sauces are made with it as an ingredient. It is also consumed directly with salt, chili, and lemon (CONABIO 2019, <http://www.conafor.gob.mx:8080/documentos/docs/13/984Pithecellobium%20dulce.pdf>, accessed 21 April 2019). *Pithecellobium dulce* has several insect pests, including *Subpandesma anysa* Guénée (Lepidoptera: Erebiidae), *Polydesma umbricola* Boisduval (Lepidoptera: Erebiidae), *Umbonia crassicornis* Amyot & Serville (Hemiptera: Membracidae), and *Indarbela* sp. Fletcher (Lepidoptera: Metarbelidae) (Parrota 1991, Inst. Trop. For., 5 pp.), but until now spider mites have not been reported as occurring on the plant.

In March 2017, 20 leaves of *T. havanensis* were collected in Alta Cima, municipality of Gómez Farías (N 23°3'29.3", W 99°11'45", 905 m above sea level). In January 2019, 50 leaves of *P. dulce* were collected in Victoria City (N 23°44'38.4", W 99°9'57.599", 329 m above sea level), Tamaulipas State, Mexico. *Oligonychus punicae* was identified using the taxonomic keys of Barker and Tuttle (1994, Indira Publishing House, West Bloomfield, MI) and Khanjani et al. (2018, Syst. Appl. Acarol. 23: 223–287). The identification was conducted using the following characters. In the male, the aedeagus bends ventrally and the distal portion abruptly narrows at the tip. In the female, the dorsal setae are not on small tubercles, and are long, namely, sc_1 extends past about or to the base of d_1 and c_1 , c_1 extends past the base of e_1 , and d_1 extends past the base of f_1 .

We counted a mean \pm SD of 25 ± 4 and 70 ± 4 adults (females and males) of *O. punicae* per leaf on *T. havanensis* and *P. dulce*, respectively. In both plants, 95% of the spider mite population was observed on upper leaf surface, with the remainder (5%) on lower leaf surface. Some leaves showed scattered chlorotic spots and in others they were already a bronze color, damage caused by feeding and characteristic of *O. punicae* (Vásquez et al. 2008). Therefore, this represents the first report of *O. punicae* on *T. havanensis* and *P. dulce*.

Oligonychus punicae is exhibiting an adaptability to plant hosts in a variety of habitats. These new hosts reported herein along with the previously reported hosts of the pest indicate the potential of *O. punicae* to infest various plant species under different environmental conditions. It is, therefore, important to know the hosts in urban and natural areas, as populations of *O. punicae* may establish on these hosts before dispersing to other hosts of greater economic importance. It may prove useful to manage *O. punicae* populations on these hosts before they move to economically important crop plants.

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