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Two New Hosts of *Tetranychus merganser* Boudreaux¹ in Northeastern Mexico: *Pittosporum tobira* (Pittosporaceae) and *Helietta parvifolia* (Rutaceae)

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The Tetranychidae family distributed worldwide has 1,321 species of mites known on 3,917 plants (Migeon and Dorkeld 2019) in more than 70 genera of two subfamilies, Bryobinae and Tetranychinae. Most agricultural pests are Tetranychinae (Zhang 2003, Hoy 2011). Migeon and Dorkeld (2019) mentioned 154 species in the genus *Tetranychus* Dufour (Trombidiformes: Tetranychidae) throughout the world. Red spider, *Tetranychus merganser* Boudreaux, is an important agricultural pest worldwide. The mite distributed in China, USA, Australia, and Mexico has been reported on apocynaceous, aquifoliaceous, cactaceous, caricaceous, cucurbitaceous, euphorbiaceous, leguminoseous, moringaceous, oleaceous, ranunculaceous, rosaceous, and solanaceous plants (Chacó-Hernández et al. 2020). Feeding by mites destroys epidermal tissue, parenchyma, and chloroplasts of leaves of host plants and is observed as small white spots near leaf veins, and with severe infestation, the spots can fuse, covering all the leaf (López 2014, López-Bautista et al. 2016, Montelongo-Ruíz et al. 2020).

This scientific note reports two new hosts of *T. merganser*: *Helietta parvifolia* Gray Benth (Rutaceae) and *Pittosporum tobira* (Thunb.) W.T. Aiton (Pittosporaceae) in Tamaulipas State, México. *H. parvifolia* was observed in Peregrina Canyon in Protected Natural Area "Altas Cumbres" (23° 46' 41" N y 99° 12' 12" W, 365 m above sea level) where 50 leaves were collected on 10 January 2020. The second host, *P. tobira*, was in an urban area of Victoria City (23° 42' 54" N y 99° 10' 48" W, 448 m above sea level) where 30 leaves were collected on 1 February 2020.

Leaves of *H. parvifolia* and *P. tobira* damaged by mites were observed with a 30-x magnifying loupe. Specimens of mites were preserved in 70% alcohol and transported to the Population Ecology Laboratory of the Institute of Applied Ecology of the Autonomous University of Tamaulipas at Victoria City, Tamaulipas State, Mexico. Forty-five mites were collected from *H. parvifolia* leaves and 20 mites from

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P. tobira. *T. merganser* was identified using taxonomic keys by Baker and Tuttle (1994). Identification used the empodium with proximoventral hairs (female) and aedeagus in goose-shaped head (male).

Barretta, *Helietta parvifolia* Gray Benth (Rutaceae), is distributed in the United States of America, a few kilometers east of the Rio Grande, in southeast Texas. In Mexico, it is found on the hills of the Sierra Madre Oriental in the States of Coahuila, Nuevo León, Tamaulipas, San Luis Potosí, Querétaro, and Hidalgo (Puga-de-los-Reyes 2000, Gonzalez-Solis 2004). The wood of the species is used for firewood, charcoal, and construction of fences and rural houses because it is very resistant to rot (Zertuche-Rodríguez et al. 2018). Barreta leaves have insecticidal and fungicidal properties (Burrola 1983, Gonzalez-Solis 2004).

Pittosporum tobira (Thunb.) W.T. Aiton (Pittosporaceae) is native to Japan, Korea, and Taiwan, but introduced to other regions of the world, where it was naturalized. It is in forests, limestone areas, slopes, sandy shores, roadsides, from sea level to 1,800 m, and also cultivated as an ornamental plant (Zhiyun et al. 2003). *P. tobira* seeds contain carotenoids, and some of the compounds might be antioxidant, antitumor, anticancer, and immune enhancing (Fujiwara and Maoka 2001, Maoka et al. 2006).

Tetranychus merganser produces chlorotic spots on *H. parvifolia* and *P. tobira*, but no white webbing on either plant. The same signs were found by Monjarás-Barrera et al. (2015, 2017) who observed that *T. merganser* produced white webbing under greenhouse conditions but not in field conditions. In this note are reported two new hosts of *T. merganser*, indicating the mite has unique ability to spread, establish, and explore new feeding sites quickly under different environmental conditions. This can cause severe economic loss from damage to ornamental plants such as *P. tobira* and wild plants such as *H. parvifolia*.

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