



**Greenidea psidii (Hemiptera: Aphididae: Greenideinae)  
New Invasive Aphid in Costa Rica**

Authors: Hidalgo, Nicolás Férrez, Muller, William Villalobos, and Durante, M. Pilar Mier

Source: Florida Entomologist, 92(2) : 396-398

Published By: Florida Entomological Society

URL: <https://doi.org/10.1653/024.092.0233>

---

BioOne Complete ([complete.BioOne.org](https://complete.BioOne.org)) is a full-text database of 200 subscribed and open-access titles in the biological, ecological, and environmental sciences published by nonprofit societies, associations, museums, institutions, and presses.

Your use of this PDF, the BioOne Complete website, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at [www.bioone.org/terms-of-use](https://www.bioone.org/terms-of-use).

Usage of BioOne Complete content is strictly limited to personal, educational, and non - commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

---

BioOne sees sustainable scholarly publishing as an inherently collaborative enterprise connecting authors, nonprofit publishers, academic institutions, research libraries, and research funders in the common goal of maximizing access to critical research.

**GREENIDEA PSIDII (HEMIPTERA: APHIDIDAE: GREENIDEINAE)  
NEW INVASIVE APHID IN COSTA RICA**

NICOLÁS PÉREZ HIDALGO<sup>1</sup>, WILLIAM VILLALOBOS MULLER<sup>2</sup> AND M. PILAR MIER DURANTE<sup>1</sup>  
<sup>1</sup>Departamento de Biodiversidad y Gestión Ambiental, Universidad de León, 24071, León, España

<sup>2</sup>Centro de Investigación en Biología Celular y Molecular, Universidad de Costa Rica,  
11501-2060 San José, Costa Rica

The genus *Greenidea* comprises about 45 East Asian species of pear-shaped aphids with 6-segmented antennae, long hairy and pale reticulated siphunculi, rounded cauda with a median processus and 7.7.7 setae on first tarsal segments (Sugimoto 2008). The alatae viviparous females are more long-bodied and have longer siphunculi than the apterous ones. About half the species are included in subgenus *Trichosiphum*, in which the reticulation of the siphunculi is confined to the basal region. The genus occurs from Japan to Eastern Australia and from India to the Philippines (Blackman & Eastop 1994, 2006; Sugimoto 2008). They are mainly tree-living aphids and their biology is little known and sexual forms are generally unrecorded.

The apterae of *Greenidea (Trichosiphum) psidii* van der Goot 1916 (Fig. 1) are dark brown with long yellowish-brown siphunculi, apically curved outwards. There is a complete description, under the name *Greenidea formosana* (Maki), in Sugimoto (2008). They live on young shoots and undersides of leaves of species of Myrtaceae (mainly *Psidium guajava* L., but also on species of *Callistemon*, *Eucalyptus*, *Eugenia*, *Malaleuca*, *Metrosideros*, *Rhodomyrtus*, *Syzygium* and *Tristania*); also, samples identified as this species have been recorded on other plants such as *Ficus* (Moraceae), *Glycosmis* (Rutaceae), *Scurrula* (Loranthaceae), *Lagerstroemia* (Lythraceae), *Nesua* (Clusiaceae), *Rhamnus* (Rhamnaceae) and *Engelhardtia* (Juglandaceae) (Halbert 2004; Blackman



Fig. 1. Viviparous apterae and alatae of *Greenidea psidii* on *Psidium guajava*.

& Eastop 2006; Sugimoto 2008). The male of this species was described by Takahashi (1936).

*Greenidea psidii* has been reported in India, Bangladesh, Nepal, China, Taiwan, Japan (the Bonin Islands; Loochoo (Ryukyu) Islands), Indonesia (Java, Sumatra) and the Philippines; outside its region of origin it was recorded in Hawaii and California (USA) (Beardsley 1993; Gill 1998; Sugimoto 2008). Recently it was intercepted in Florida in a shipment of *Myrtus communis* L. cut flowers from California (Halbert 2004); also, this author wrote that she has a specimen from Australia (Brisbane).

In Costa Rica *G. psidii* was recorded for the first time in the locality of Monteverde (19.ii.08) on *P. guajava* L. and a survey in other areas of the country during 2008 was conducted to delimit its distribution (Fig. 2). The species was recorded in all localities sampled. On *Psidium guajava* it was recorded in the North Region [Aguacate (20.ii), Aranjuez (23.iv), Bijagua (21.ii), Cañas (23.iv),

Dos de Tilarán (20.ii), Filadelfia (23.iv), Hacienda Inocentes (22.ii), Jicarito (21.ii), La Fortuna (20.ii), La Tejona (20.ii), Liberia (22.ii), Limonal (23.iv), Nicoya (23.iv), Quebrada Grande (20.ii), San Rafael de Guatuso (21.ii), Santa Cruz (23.iv), Santa Elena (20.ii) and Upala (21.ii)], in the Central Valley [Coronado (22.iii), San José (22.iii), San José de Alajuela (29.ii), San Pedro (25.ii) and Santo Domingo de Heredia (24.ii)], in the Atlantic Region [Batán (27.iv), Colón Caribe (27.iv), Guápiles (27.iv), Guácimo (27.iv), Manzanillo (27.iv), Penhurst (27.iv), Pocora (27.iv), Puerto Viejo (27.iv), Río Frio (27.iv) and Siquirres (27.iv)], in El Guarco Valley [Cartago (26.ii) and Ujarrás (15.iii)], and in the South Region [Alto de San Juan (4.vii), Ceibo (4.vii), Curre (4.vii), Dominical (4.vii), Florida (4.vii), La Ese (28.ii), Ojochal (4.vii), Olla Cero (4.vii), Palmares (4.vii), Palmar Sur (4.vii), Platanillo (4.vii), San Buena (4.vii), Sonador (4.vii), Tinamastes (4.vii), Uvita (4.vii), Villa Colón (4.vii) and Villa Neily (4.vii)];

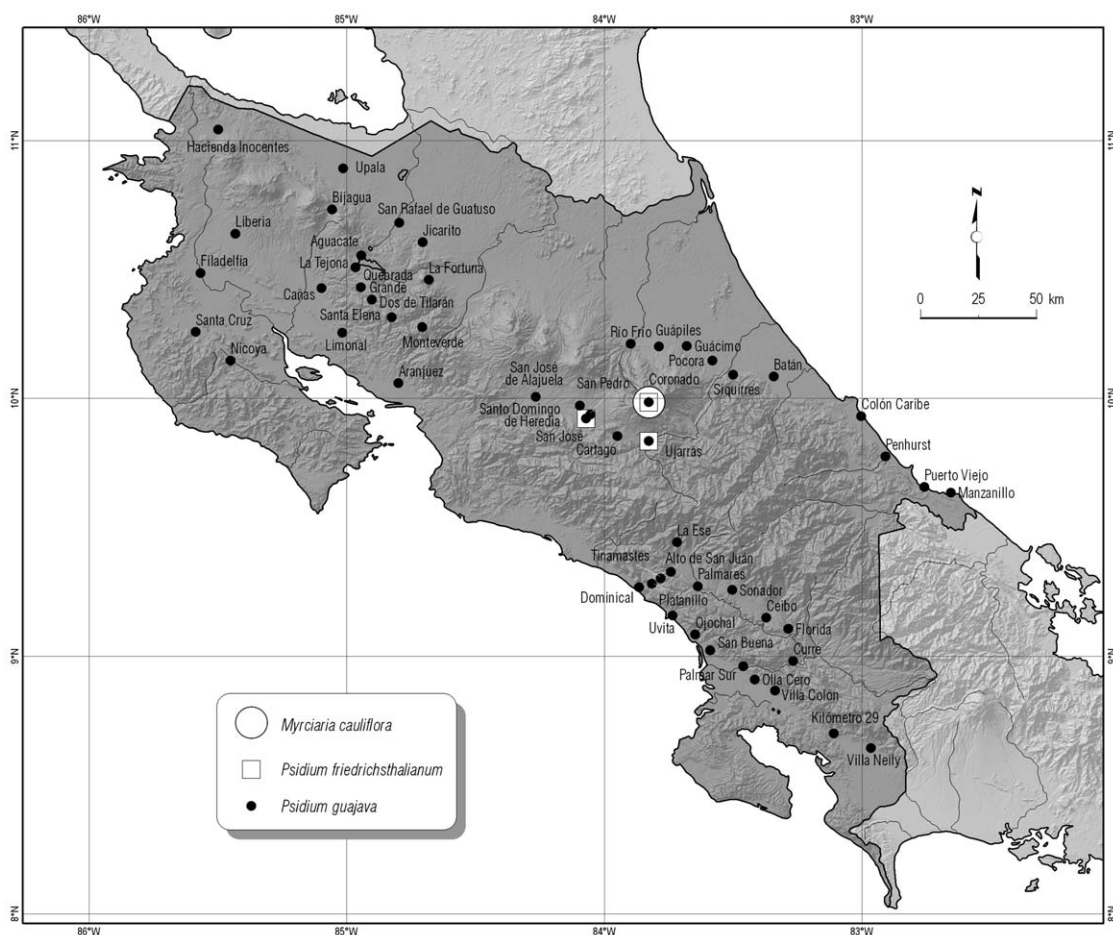


Fig. 2. Distribution of *Greenidea psidii* on *Psidium guajava*, *Psidium friedrichsthalianum* and *Myrciaria cauliflora* in Costa Rica.

on *Psidium friedrichsthalianum* (O. Berg) Nied.) in the Central Valley [Coronado (22.iv) and San José (22.iv)] and in El Guarco Valley [Ujarrás (15.iii)], and on *Myrciaria cauliflora* (Mart.) O. Berg only in the Central Valley [Coronado (22.iv)]. All vouchers are deposited in the aphidological collection of the University of León (Spain).

Given the widespread distribution of *G. psidii* in the country (Fig. 2) and the abundance of its populations, it seems that the introduction of this aphid species occurred a long time ago, although it has never been caught in yellow traps and is therefore not included in the guide of winged aphids of Costa Rica (Voegtlin et al. 2003).

*Psidium guajava* is an important food crop and medicinal plant in tropical and subtropical countries and is widely used as food and in folk medicine around the world (Pérez Gutiérrez et al. 2008). It is also considered to have been translocated to most tropical and frost-free subtropical countries and naturalized in many others (Howard 1989); for this reason *G. psidii* must probably be more widely distributed in Central America and neighboring countries. To date 8 species of aphids (*Greenidea ficicola* Takahashi 1921, *G. psidii* and 6 polyphagous species) have been recorded on *P. guajava* (Blackman & Eastop 2000), but they are not considered a serious pest for guava trees (Morton 1987). However, further studies and monitoring are necessary to confirm this point.

This research was supported by the Spanish Agency for International Development Cooperation (AECID) (ref. D/010523/07) and the University of Costa Rica.

#### SUMMARY

*Greenidea (Trichosiphum) psidii* van der Goot 1916 is recorded for the first time in Costa Rica and Central America. The species has been recorded on *Psidium guajava*, *Psidium friedrichst-*

*halianum* and *Myrciaria cauliflora* and seems to be widely distributed in all parts of the country and probably in all Central America.

#### REFERENCES CITED

- BEARDSLEY, J. W. 1993. *Greenidea formosana* (Maki), an aphid new to the Hawaiian islands (Homoptera: Aphididae: Greenideinae). Proc. Hawaiian Entomol. Soc. 32: 157-158.
- BLACKMAN, R. L., AND EASTOP, V. F. 1994. Aphids on the World's Trees. CAB International in association with The Natural History Museum, Wallingford. 987 pp., 16 plates.
- BLACKMAN, R. L., AND EASTOP, V. F. 2000. Aphids on the World's Crops. An Identification Guide (second edition). J. Wiley & Sons. Chichester. 8 + 466 pp.
- BLACKMAN, R. L., AND EASTOP, V. F. 2006. Aphids on the World's Herbaceous Plants and Shrubs. (Volume 1 Host Lists and Keys/Volume 2 The aphids). J. Wiley & Sons. Chichester. 8 + 1439 pp.
- GILL, R. J. 1998. New State Records: An Aphid. Ca. Plant Pest and Dis. Report, 17: 9.
- HALBERT, S. E. 2004. The genus *Greenidea* (Rhynchota: Aphididae) in the United States. Florida Entomol. 87: 159-163.
- HOWARD, R. A. 1989. Flora of the Lesser Antilles, Leeward and Windward Islands. Vol. 5. Arnold Arboretum, Harvard University, Jamaica Plain, MA. 604 pp.
- MORTON, J. 1987. Guava, pp. 356-363 In J. F. Morton [ed.], Fruits of Warm Climates. Miami, FL. 505 pp.
- PÉREZ GUTIÉRREZ, R. M., MITCHELL, S., AND VARGAS SOLIS, R. 2008. *Psidium guajava*: a review of its traditional uses, phytochemistry and pharmacology. J. Ethnopharmacol. 17: 1-27.
- SUGIMOTO, S. 2008. A revision of the genus *Greenidea* Schouteden in Japan (Homoptera: Aphididae: Greenideinae). Ins. Matsum. n. s. 64: 53-79, 9 figs.
- TAKAHASHI, R. 1936. Some Aphididae from south China and Hainan (Homoptera), 1. Lingnan Sci. J. 15: 595-606.
- VOEGLIN, D., VILLALOBOS W., SÁNCHEZ, M. V., SABORÍO, G., AND RIVERA, C. 2003. Guía de los áfidos alados de Costa Rica (A guide to the winged aphids of Costa Rica). Rev. Biol. Trop. 51: 1-214.