

Leptoglossus zonatus (Hemiptera: Coreidae)

This short description has been prepared in the framework of the EPP0 Study on Pest Risks Associated with the Import of Tomato Fruit. The whole study can be retrieved from the EPP0 website.

EPP0 (2015) EPP0 Technical Document No. 1068, EPP0 Study on Pest Risks Associated with the Import of Tomato Fruit. EPP0 Paris [\[link\]](#)

Africa	Asia	Oceania	North America	South-Central America and Caribbean
--------	------	---------	---------------	-------------------------------------

Leptoglossus zonatus (*Theognis zonatus*, *Veneza zonata*) (Hemiptera: Coreidae) (western leaf-footed bug, large-legged bug, chinche patona)

Why	<p>Identified in the EPP0 tomato study. <i>Leptoglossus zonatus</i> is a polyphagous pest that causes damage to various crops.</p> <p>Note: CABI CPC (2013) contains separate entries for <i>Veneza zonata</i> and <i>Leptoglossus zonatus</i>. However, they are synonyms according to other publications (incl. Coreoidae Species File (ND), Buss et al. (2011), Arnal et al. (2005) etc.)</p>
Where	<p>EPP0 region: absent</p> <p>North America: Mexico (Tepole-Garcia et al., 2012; Tarango-Rivero and Gonzalez Hernández, 2009), USA (south and west, incl. Alabama, Arizona, California, Florida, Louisiana, Texas) (Chi and Mizell, 2012; Xiao and Fadamiro, 2010).</p> <p>Central America: through Mexico and Central America (incl. Nicaragua, Honduras) into the northern half of South America (Chi and Mizell, 2012; Xiao and Fadamiro, 2010). Costa Rica (GBIF, 2013), El Salvador (Gonzalez-Chavez, 2002). Probably others (see below)</p> <p>South America: Brazil (De Oliveira et al., 2004), Venezuela (PAV, 2013) (both as <i>V. zonata</i>), Colombia (Duarte Sanchez, 2006).</p> <p>In addition: Coreoidae Species File (ND), citing Packauskas (2010) (not found) mentions Argentina, Bolivia, Ecuador, Guatemala, Panama, Peru (a quick search did not allow to find specific records for these countries)</p> <p>“Caribbean” is indicated in King and Saunders (1984), but no specific record was found.</p>
Climatic similarity	<p>Medium. 7 common climates considering the countries and US States listed above. These correspond in the EPP0 region to the Mediterranean Basin, Near East and possibly part of Central Asia.</p>
On which plants	<p><i>L. zonatus</i> feeds on a wide variety of crops. Tomato, <i>Jatropha curcas</i> (cultivated for biofuel), Satsuma mandarin (but unknown if host), maize, cotton, eggplant, peach, pecan, pomegranate, watermelon (Chi and Mizell, 2012). Other hosts listed in the literature are <i>Citrus aurantiifolia</i>, <i>Citrus sinensis</i>, <i>Cucumis melo</i>, <i>Cucurbita</i> (pumpkin), <i>Persea americana</i> (avocado), <i>Psidium guajava</i> (guava), <i>Punica granatum</i> (pomegranate), <i>Sorghum bicolor</i> (sorghum) (CABI CPC), <i>Cyphomandra betacea</i> (Arnal et al., 2005). Schaefer and Panizzi (2000) mention pomegranate and a few other plants as breeding hosts. It is unclear if it can complete its life cycle on satsuma mandarin (Chi and Mizell, 2012).</p>
Damage	<p>Eggs are laid on leaves, stems. Nymphs and adults feed on leaves, flowers, fruit, seeds, and are mobile. Adults fly and are attracted by light (Chi and Mizell, 2012; Buss et al., 2011). Feeding causes deformations, spots, aborted fruit, malformed seeds (Buss et al., 2011). Feeding on fruit and seeds affects the quality and cause yield reduction (Marchiori, 2002). In the USA, it became a major pest of citrus, and is considered an emerging pest on various other of crops such as maize, cotton, eggplant, peach, pecan, pomegranate, tomato, watermelon (Xiao and Fadamiro 2011; Chi and Mizell, 2012). In South America, it is a pest of various crops, and also a vector of plant trypanosomatids (de Oliveira et al., 2004). On maize in Brazil, losses of 15% were registered (Marchiori, 2002). In Colombia, damage is caused to citrus (Duarte Chavez, 2002). In Central America (King and Saunders, 1984), it is a minor pest that can be serious on tomato. Schaefer and Panizzi (2000) mention damage on many crops, including cotton, tomato, citrus, avocado, cucurbits, sorghum, eggplant, pomegranate, passionfruit, maize, soybean.</p>
Dissemination	<p>This pest has spread at least within the USA (for example first recorded in Florida in 2005 – Buss et al., 2005). Adults fly. No additional data on spread was found.</p>
Pathway	<p>Fruit, plants for planting, vegetables of host plants from countries where <i>L. zonatus</i> occurs.</p>

Possible risks	Many hosts of <i>L. zonatus</i> are major crops in the EPPO region, especially in the southern part. The climatic similarity according to the EPPO Study between the area where it occurs and the EPPO region is medium.
Categorization	None found
Sources	<p>Arnal E, Ramos F, Aponte A, Suárez ZH, Cermeli M, Rojas T. 2005. Reconocimiento de insectos y enemigos naturales asociados al tomate de árbol en Aragua y Miranda, Venezuela CENIAP HOY, Revista Digital del Centro Nacional de Investigaciones Agropecuarias de Venezuela, Número 9 septiembre-diciembre 2005</p> <p>Buss LJ, Halbert SE, Johnson SJ. 2011. <i>Leptoglossus zonatus</i>-A new leaf-footed bug in Florida (Hemiptera: Coreidae). Pest Alert, Florida Department of Agriculture and Consumer Service, Division of Plant Industry, Gainesville. http://www.freshfromflorida.com/Divisions-Offices/Plant-Industry/Plant-Industry-Publications/Pest-Alerts/Pest-Alerts-Leptoglossus-Zonatus-A-New-Leaffooted-Bug-In-Florida (Accessed December 2013)</p> <p>CABI CPC.2013.</p> <p>Chi AA, Mizell RF III. 2012. <i>Leptoglossus zonatus</i>. Featured creatures. University of Florida. http://entnemdept.ufl.edu/creatures/citrus/leptoglossus_zonatus.htm (Accessed December 2013)</p> <p>Coreoidea Species File. ND. Version 5.0 http://coreoidea.speciesfile.org/Common/editTaxon/SearchForTaxon.aspx (Accessed August 2013)</p> <p>de Oliveira D, de Souza T de A, Murate LS, Jankevicius JV, Gaziri LC, Jankevicius SI. 2004. Protease and phospholipase inhibition protect <i>Venezia zonata</i> (Hemiptera Coreidae) against septicemia caused by parasite trypanosomatid 563DT. <i>J Invertebr Pathol.</i> 2004 Jan;85(1):9-17.</p> <p>Duarte Sanchez IR. 2006. Biología, parasitoides y danos de <i>Leptoglossus zonatus</i> y <i>Leptoglossus gonagra</i> (Heteroptera: Coreidae) en cultivos de <i>Citrus</i> spp. Thesis. Universidad industrial de Santander.</p> <p>Gonzalez-Chavez MO. 2002. Informe De Consultoría Sobre: Diagnostico De Las Especies Invasoras De Fauna Invertebrada Y Sus Efectos Sobre Ecosistemas En El Salvador. Ministerio De Medio Ambiente Y Recursos Naturales.</p> <p>King ABS and Saunders JL. 1984. The invertebrate pests of annual food crops in Central America. Overseas Development Administration, London. http://books.google.dk/books?id=qMwOAOAAIAAJ&pg=PA149&lpg=PA149&dq=agrotis+repleta+king&source=bl&ots=xopGOSMmfD&sig=wjUKG49Wwcre-19xl7AA6UImE4g&hl=en&sa=X&ei=eGP3Uc-yHunJ0AX78oD4BQ&ved=0CDIQ6AEwAg#v=onepage&q=agrotis%20repleta%20king&f=false (Accessed August 2013)</p> <p>PAV. 2013. Plagas agrícolas de Venezuela. Sociedad Venezolana de Entomología (SVE) and Museo del Instituto de Zoología Agrícola "Francisco Fernández Yépez" (MIZA). http://plagas.miza-ucv.org.ve/ (Accessed January 2014)</p> <p>Schaefer CW and Panizzi AR. 2000. Heteroptera of economic importance, CRC Press, Boca Raton, FL, 828 pp. http://books.google.dk/books?id=AVcBI0GL-fQC&pg=PA193&lpg=PA193&dq=nysius+clevelandensis+biology&source=bl&ots=xWYgyiZVT&sig=SwfKG-c128yJdli3YX44xP5dGsA&hl=da&sa=X&ei=Ae2FUuf4D6i34wSahICABQ&ved=0CCwO6AEwAA#v=onepage&q=nysius%20clevelandensis%20biology&f=false (Accessed December 2013)</p> <p>Tarango Rivero SH, González Hernández A. 2009. Especies, Fluctuación Poblacional y Enemigos Naturales de Chinchas (Hemiptera: Pentatomidae, Coreidae, Largidae) Asociadas a Nopal Pecanero. <i>Southwestern Entomologist</i> 34(3):305-318. 2009.</p> <p>Tepole-Garcia RE, Pineda-Guillermo S, Martínez-Herrera J, Castrejón-Gómez VR. 2012. Records of Two Pest Species, <i>Leptoglossus zonatus</i> (Hemiptera: Coreidae) and <i>Pachycoris klugii</i> (Hemiptera: Scutelleridae), Feeding on the Physic Nut, <i>Jatropha Curcas</i>, in Mexico. <i>Florida Entomologist</i> (95)1: 208-2010</p> <p>Xiao YF, Fadamiro HY. 2010. Evaluation of damage to satsuma mandarin (<i>Citrus unshiu</i>) by the leaf-footed bug, <i>Leptoglossus zonatus</i> (Hemiptera: Coreidae). <i>J. Appl. Entomol.</i> 134 (2010) 694–703.</p> <p>Not found: Allen RC. 1969. A revision of the genus <i>Leptoglossus</i> Guerin (Hemiptera: Coreidae). <i>Entomologica Americana</i> 45: 35-140</p> <p>Packauskas. 2010. [title unknown] <i>Fort Hays Studies</i> 5:69</p>