

## COMUNICACIÓN

### The western conifer seed bug *Leptoglossus occidentalis* Heidemann, 1910 (Heteroptera: Coreidae) in Portugal

E. SOUSA, P. NAVES

*Leptoglossus occidentalis* Heidemann, 1910 (Heteroptera) is reported from Tróia peninsula, South of Lisbon, Portugal. This insect is native to North America and is an important pest of pines, affecting the cones and seeds. In Europe was detected for the first time in Italy in 1999, and subsequently spread through most of western and central Europe. Adult specimens were collected in October 2010 in a maritime pine (*Pinus pinaster*) forest with some stone pines (*Pinus pinea*) also present. The host(s) and population levels of *L. occidentalis* are unknown, although this exotic insect may eventually pose a threat to the *P. pinea* seed industry.

E. SOUSA, P. NAVES. Instituto Nacional dos Recursos Biológicos (National Institute for Biological Resources), I.P., Unidade de Silvicultura e Produtos Florestais Quinta do Marquês, 2780 - 159 Oeiras, Portugal.

**Key words:** Pest, pine cones, seeds, Pinus.

## INTRODUCTION

*Leptoglossus occidentalis* Heidemann, 1910 (Heteroptera: Coreidae) is a Hemiptera native to North America, where it can be found from Canada to Mexico (MCPHERSON *et al.*, 1990). It was accidentally introduced in Italy in 1999 (TAYLOR *et al.*, 2001; VILLA *et al.*, 2001), rapidly spread to nearby countries and within a decade it colonized most of western and central Europe, from Spain to Poland (see RABITSCH, 2008 and EPPO, 2010 for reviews). According to RABITSCH (2010), this wide range is the result of multiple introductions into Europe, with additional secondary translocations within it.

Adult insects feed on the young seeds or flowers of over 40 species of conifers, mainly *Pinus* sp. and *Pseudotsuga menziesii*. While feeding, the insects cause the destruc-

tion and infertility of the seeds, and therefore *L. occidentalis* is regarded as a pest of conifer seed nurseries in its native North America (MITCHELL, 2000; REID *et al.*, 2009).

## MATERIAL AND METHODS

In October 2010 INRB, IP technicians captured 23 adult insects in a maritime pine forest in Tróia peninsula. Specimens were hand-collected and taken to the INRB laboratories in Oeiras, where they were identified with the keys of GIBSON (1917) and MCPHERSON *et al.*, (1990). Among the significant morphological characteristic features of *Leptoglossus occidentalis* is the inverted white zigzag mark across the centre of the forewing, the leaf-like expansions on the hind tibiae, the reddish-brown to grey-

brown coloration and a length of approximately 20 mm.

Insects collected in Tróia were determined to be *L. occidentalis*, confirming the very recent detection of this pest in Portugal (GROSSO-SILVA, 2010).

## RESULTS AND DISCUSSION

### *Leptoglossus occidentalis* Heidemann, 1910

**Material examined:** Tróia peninsula, near Tróia, N 38°28' W 8°52', 6.x.2010, 23 adults, P. Naves det. & coll., from *Pinus pinaster* trees. All material is deposited in the entomological collection of the INRB, I.P. Institute, Oeiras, Portugal.

Portugal was one of the last countries in Western Europe to be colonized by *L. occidentalis*. Due to its recent detection, nothing is known about its host(s) and population levels, although a national survey is being prepared. The species had recently been recorded from northern Portugal, this is the first record South of the Tagus river and in a pine forest.

*L. occidentalis* is easily moved as egg, nymph, or adult with the international trade

of conifer plants and wood materials. Tróia is located only four kilometers from the Setúbal maritime port, where there is an important trade of timber and wood products with other European ports. According to DUSOULIER *et al.* (2007), at least five recent introductions of *L. occidentalis* in Europe were near ports with significant commercial activity.

*L. occidentalis* is considered a pest of conifer seed nurseries because the feeding adults pierce the cones of the host plants, suck the endosperm and cause abortion of the seed, reducing the overall fertility (BATES and BORDEN, 2005; MITCHELL, 2000). In Portugal, special attention should be given to the possibility of *L. occidentalis* attacking *P. pinea* cones, as the edible seeds are considered a gastronomic delicacy and a high-income forestry product, with over 50.000 tones of cones harvested each year, worth over 20 million € (Costa *et al.*, 2008). Additionally, attacks on other species, such as maritime pine and native Junipers should also be monitored as these are also economically and ecologically important native species, which could be affected by the presence of this new exotic insect.

## RESUMEN

SOUSA, E., P. NAVES. 2011. La chinche de los piñones *Leptoglossus occidentalis* Heidemann, 1910 (Heteroptera: Coreidae) en Portugal. *Bol. San. Veg. Plagas*, **37**: 65-67.

*Leptoglossus occidentalis* Heidemann, 1910 (Heteroptera) avistado en Portugal. Es un insecto nativo de Norteamérica y es una plaga para las coníferas, afectando los piñones y las semillas. En Europa se detectó por primera vez en Italia en 1999, y posteriormente se propagó a través de la mayor parte de Europa occidental y central. Se han colectado especímenes adultos en la península de Tróia, al sur de Lisboa, en Octubre de 2010, en una especie de pino marítimo (*Pinus pinaster*) y en algunas zonas de pino piñonero (*Pinus pinea*). El rango de hospederos y el nivel poblacional de *L. occidentalis* se desconocen todavía, aunque este insecto exótico puede llegar a representar una amenaza para la industria de piñones de *P. pinea*.

**Palabras clave:** plaga, piña, semilla, Pinus.

## REFERENCES

- BATES, S. L., BORDEN, J. H. 2005. Life table for *Leptoglossus occidentalis* Heidemann (Heteroptera: Coreidae) and prediction of damage in lodgepole pine seed orchards. *Agr. Forest Entomol.*, **7** (2): 145-151.
- COSTA, R., EVARISTO, I., BATISTA, D., AFONSO, S., CARRASQUINHO, I., SOUSA, E., INÁCIO, L., CAPELO, J., SANTOS, L., GOMES, J., VACAS DE CARVALHO, M. A. 2008. *Condução de Povoamentos de Pinheiro Manso e Características Nutricionais do Pinhão*. Costa, R. & Evaristo I., eds. Edição INRB - Projecto Agro 945. 50 pp.
- DUSOULIER, F., LUPOLI, R., ABERLENC, H. -P., STREITO, J. -C. 2007. L'invasion orientale de *Leptoglossus occidentalis* en France: bilan de son extension biogéographique en 2007 (Hemiptera Coreidae). *L'Entomologiste*, **63** (6): 303-308.
- EPPO, 2010. *Leptoglossus occidentalis: an invasive alien species spreading in Europe*. EPPO Reporting Service – Pests & Diseases, **1**: 8-12.
- GIBSON, E. H. 1917. Key to the Species of *Leptoglossus* Guér. occurring north of Mexico. *Psyche*, **24**: 69-72.
- GROSSO-SILVA, J. M. 2010. The North American western conifer seed bug, *Leptoglossus occidentalis* Heidemann, 1910 (Hemiptera, Coreidae), new to Portugal. *Arquivos Entomolóxicos*, **4**: 37-38.
- MCPHERSON, J. E., PACKAUSKAS, R. J., TAYLOR, S. J., O'BRIEN, M. F. 1990. Eastern Range Extension of *Leptoglossus occidentalis* with a key to *Leptoglossus* species of America North of Mexico (Heteroptera: Coreidae). *Great Lakes Entomol.*, **23** (2): 99-104.
- MITCHELL, P. L. 2000. Leaf-Footed Bugs (Coreidae). In: SCHAEFER, C. W. & PANIZZI, A. R. (Eds.). *Heteroptera of Economic Importance*. CRC Press, Boca Raton, FL, pp. 337-403.
- RABITSCH, W. 2008. Alien True Bugs of Europe (Insecta: Hemiptera: Heteroptera) *Zootaxa*, **1827**: 1-44.
- RABITSCH, W. 2010. True Bugs (Hemiptera, Heteroptera). Chapter 9.1. In: Roques A et al. (Eds) *Alien terrestrial arthropods of Europe. BioRisk, Special Issue*, **4**: 407-403.
- TAYLOR, S.J., TESCARI, G., VILLA, M. 2001. A nearctic pest of Pinaceae accidentally introduced into Europe: *Leptoglossus occidentalis* (Heteroptera: Coreidae) in northern Italy. *Entomol. News*, **112**: 101-103.
- VILLA, M., TESCARI, G., TAYLOR, S.J. 2001. Nuovi dati sulla presenza in Italia di *Leptoglossus occidentalis* (Heteroptera Coreidae). *Bollettino della Società Entomologica Italiana, Genova*, **133**: 103-112.

(Recepción: 25 enero 2011)

(Aceptación: 4 febrero 2011)