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## First report of *Stephanitis lauri* Rietschel, 2014 (Heteroptera, Tingidae) in Italy

**Riassunto:** *Primo ritrovamento di Stephanitis lauri Rietschel, 2014 (Heteroptera, Tingidae) in Italia.*

L'autore riporta il primo ritrovamento di *Stephanitis lauri* Rietschel, 2014 (Heteroptera, Tingidae) in Toscana e Liguria (Italia). La specie è stata osservata a Pisa (Toscana) e a Piano di Vezzano (La Spezia, Liguria) su piante di alloro. *S. lauri* è stato descritto per la prima volta in Grecia ed è stato segnalato in Costa Azzurra (Francia) nel 2017.

**Abstract:** The first report of *Stephanitis lauri* Rietschel, 2014 (Heteroptera, Tingidae) in Tuscany and Liguria (Italy). The species has been observed in Pisa (Pisa, Tuscany) and Piano di Vezzano (La Spezia, Liguria) on bay laurel plants. *S. lauri* has been firstly described in Greece and it was recorded in Cote d'Azur (France) in 2017.

**Key words:** Lace bug, bay laurel, Italy.

### INTRODUCTION

*Stephanitis lauri* Rietschel, 2014, is a lace bug firstly described on samples collected in Crete island (Greece) in 2012, near Damnoni beach, (Rietschel, 2014) as a new species (Fig. 1). Later on, it was found in 2017 in the Southern France, at Villefranche-sur-Mer, Antibes, Cagnes-sur-Mer, Nice and Cannes (Streito *et al.*, 2018).

*Stephanitis* genus includes in Italy several autochthonous or exotic species living on host plants (mainly Ericaceae and Rosaceae); some alien species could also be found on Lauraceae and Salicaceae (Dioli *et al.*, 2015).

### MATERIALS AND METHODS

Lace bug adults were collected in June 2020, following some inspections on ornamental plants in green areas throughout Tuscany, in particular in Pisa (PI) (43°71'49"N - 10°41'65"E, altitude 4 m asl) and in Liguria in Piano di Vezzano (SP) (44°07'38.7" N - 9°53'23.3" E, altitude 29 m asl), Italy. During the inspections, these specimens were found on some bay

laurel plants. *Laurus nobilis* L., on which unusual symptoms were strongly visible. The specimens were collected, and afterwards they were analysed and identified through the stereomicroscope, comparing their morphology to the description of Rietschel (2014).

### RESULTS AND CONCLUSIONS

The specimens belonged to *S. lauri*, which has been reported for the first time in Italy, in Liguria and Tuscany. The specimens of *S. lauri* were observed on *L. nobilis*, both on isolated plants and in hedges. On the lower side of leaves, adults of the lace bug were found along with their fecal spots. On the upper side of leaves, the feeding activity of the lace bug caused chlorotic discoloration (Fig. 2) in single points or generalized when the infestation was heavy. In the case of abundant populations, the damage on the leaves was evident and well recognizable, an aspect already observed in Crete and France. Some isolated specimens of *S. lauri* were also observed on the leaves of a *Cinnamomum camphora* (L.) J. Presl., tree located in La Spezia.

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Fig. 1. Tingid adult on a bay laurel leaf (photo by Riccardo Antonelli).



Fig. 2. Damage of *S. lauri* on bay laurel plant.

*S. lauri* identification was based on morphological characters (Rietschel, 2014). A possible relationship between *S. lauri* and *S. pyri* Fabricius, 1775 as well as between *S. pyrioides* Scott, 1874 and *S. oberti* Kolenati, 1857 has been supposed (Rietschel, 2014). The origin of *S. lauri* is very unclear, it is not certain whether it is an autochthonous species of Crete or an invasive insect accidentally introduced both into Crete and France. The hypothesis is that it could be an alien species, accidentally introduced into Europe. In recent years, in fact, reports of exotic insects have increased in Europe, and among them there are many Hemiptera Tingidae. Which arose considerable interest and concern as they cause serious damage to ornamental and wild plants. The outbreaks of *S. pyrioides* on azalea and rhododendron and *S. takeyai* Drake & Maa, 1955 on *Pieris japonica* (Thunb) D. Don and *Lyonia elliptica* (Siebold & Zucc.) Hand. -Mazz., are a case in point (Streito, 2006; Streito *et al.*, 2010). Given

the great ability to colonize and compromise laurel hedges, it is feared that this insect may be already present in the other parts of Italy and that it is continuing its outbreak throughout the territory and in other countries of Europe.

However, the systematics and taxonomy of Tingidae, family which includes about 2500 species and 300 genera worldwide, have been defined as a “hard and paradoxal task” (Guidoti *et al.*, 2015); recently, the combination of molecular and morphological features has been proposed as a possible method to reassess the Tingidae systematics (Guilbert *et al.*, 2014), due to the complexity of applying only morphological characters to discriminate among species.

Molecular assays are going on the DNA of *S. lauri* to assess its phylogenetic relationships with other *Stephanitis* species. The first evidence seems to confirm its genetic distance with *S. takeyai*, *S. pyrioides* and *S. pyri*.

#### REFERENCES

- DIOLI P., SALVETTI M., GIACALONE F.I., 2015 - Presenza di *Stephanitis pyrioides* (Scott, 1874) e *Stephanitis takeyai* Drake & Maa, 1955 (Hexapoda: Heteroptera: Tingidae) in Lombardia (Italia settentrionale) e Canton Ticino (Svizzera meridionale). *Atti Museo civico Storia naturale Morbegno*, 26 (2015): 13-24.
- GUIDOTI M., MONTEMAYOR S.I., GUILBERT E., 2015 - Lace Bugs (Tingidae). In: A.R. PANIZZI, J. GRAZIA (eds.), *True Bugs (Heteroptera) of the Neotropics*, True Bugs (Heteroptera) of the Neotropics, Dordrecht: Springer Netherlands, 2015. doi: 10.1007/978-94-017-9861-7: 395-419.
- GUILBERT E., DAMGAARD J., D'HAESE C., 2014 - Phylogeny of the lacebugs (Insecta: Heteroptera: Tingidae) using morphological and molecular data. *Systematic Entomology*, 39: 431-441.
- RIETSCHEL S., 2014 - *Stephanitis lauri* nov. Spec. Von Kreta Griechenland (Heteroptera, Tingidae). *Andrias*, 20: 221-225.
- STREITO J.C., 2006 - Note sur quelques espèces envahissantes de Tingidae: *Corythucha ciliata* (Say, 1932), *Stephanitis pyrioides* (Scott, 1874) et *Stephanitis takeyai* Drake & Maa, 1955 (Hemiptera Tingidae). *Entomologiste*, 32 (1): 31-36.
- STREITO J.C., MATOCQ A., GUILBERT E., 2010 - Découverte d'un foyer de *Corythauma ayyari* (Drake 1933) et point sur la présence de plusieurs espèces de *Stephanitis* envahissants en France (Hemiptera Tingidae). *L'Entomologiste*, 66 (1): 31-36.
- STREITO J. C., BALMES V., AVERSENQ P., WEILL P., CHAPIN E., CLÉMENT M., PIEDNOIR F., 2018 - *Corythucha arcuata* (Say, 1832) et *Stephanitis lauri* Rietschel, 2014, deux espèces invasives nouvelles pour la faune de France (Hemiptera Tingidae). *L'Entomologiste*, 74 (3): 133-136.

