

Bio-ethological observations on *Reptalus quinquecostatus* and its relationship with stolbur phytoplasma in Tuscany vineyards

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In recent years studies were carried out in a Tuscan vineyard (central Italy), in order to define the planthoppers and leafhoppers associated to the vineyard agro-ecosystem and to increase knowledge on the grapevine phytoplasma vectors. Insect samples were mostly conducted with yellow sticky traps and sweep nets on three different habitats: grapevine (Sangiovese and Syrah varieties), elm, border and inter-row weeds from May to October.

Among the over 40 Auchenorrhyncha species collected, besides *Scaphoideus titanus* Ball (Cicadellidae) and *Hyalesthes obsoletus* Signoret (Cixiidae), *Reptalus quinquecostatus* (Dufour) (Cixiidae) assumed a considerable interest. In fact, about 50% of the *R. quinquecostatus* adults, collected from the three habitats, tested positive for Stolbur phytoplasma (represented mainly by the isolate tuf type a but also by tuf type b) (Trivellone *et al.*, Redia, 88, 103-108. 2005; Bagnoli *et al.*, Petria, 18, 225-228. 2008).

In the monitored vineyard as well as in many other Tuscan vine growing areas, *R. quinquecostatus* was the more abundant cixiid. Adults, usually detected from the third week of June to the first of August, showed a fairly good mobility among the different habitats and a clear tendency to visit the vine where they were seen to insert their stylets into the leaf midribs and green shoots.

From laboratory tests performed using a membrane feeding method it was demonstrated that male and female *R. quinquecostatus*, naturally infected by stolbur, are able to inoculate the phytoplasma in the artificial medium with an efficiency of 40% despite the brief survival (Pinzauti *et al.*, Annals of Applied Biology, 153, 299-305. 2008).

These bio-ecological characteristics allow to define *R. quinquecostatus* as a competent species to transmit the stolbur phytoplasma and strengthen the hypothesis that the cixiid is a vector of BN phytoplasma to grapevine. Transmission tests on grapevine to verify this hypothesis are in progress.