



European PhD Network "**Insect Science**"
XIV Annual Meeting

8 – 10 November 2023

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CREA – Centro di Ricerca per la Difesa e la Certificazione, Firenze

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Survey for '*Candidatus Liberibacter*' spp. and relative putative vectors in north-western Italy



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The gram-negative bacteria '*Candidatus Liberibacter*' spp. are phloem-limited plant pathogens causing diseases in several crops' families and are carried out by psyllids. In Europe, haplotypes C, D and E of '*Ca. Liberibacter solanacearum*' (CLso) are reported to be associated with disorders on carrot (*Daucus carota* L.), parsnip (*Pastinaca sativa* L.) and celery (*Apium graveolens* L.). On the contrary, '*Ca. Liberibacter europaeus*' (CLEu) is present in different rosaceous plants and apparently do not behave as a pathogen but as an endophyte, but not in New Zealand where it causes serious damage to *Cytisus scoparius* (L.) Link. To investigate the presence and dynamics of these pathogens in north-western Italy, field samplings were carried out for the presence of '*Candidatus Liberibacter*' spp. in seven localities with *C. scoparius* plants as well as in two fields of carrots, four of potatoes, surrounding weeds, and relative psyllids. Plant samples were regularly collected in conjunction with insect monitoring performed using the beat-tray technique and yellow sticky traps. CLEu was detected in broom samples, as well as in the two broom psyllids, *Arytainilla spartiophila* (Förster) and *Arytaina genistae* (Latreille). On potatoes, it was possible to catch psyllids, all belonging to *Heterotrioza* spp. and *Bactericera* spp., exclusively with traps. On the contrary, on carrot, *Heterotrioza chenopodii* (Reuter) and *Bactericera trigonica* Hodkinson were sampled both using yellow sticky traps and the beat-tray method. One of these latter specimens tested positive for CLso. Moreover, an individual of *Trioza urticae* (Linnaeus) collected from *Parietaria officinalis* (L.) was founded CLso positive.

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