

## ***Hyalesthes obsoletus*, vector of “bois noir”: distribution and host plant preferences in Switzerland**

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In Europe, the polyphagous planthopper *Hyalesthes obsoletus* Signoret (Hemiptera, Cixiidae) is assumed to be the most important vector of the grapevine yellows disease “bois noir” that is caused by phytoplasmas of the stolbur, 16SrXII-A group. For a better understanding of the epidemiology of bois noir in Switzerland, distribution and host plant preferences of *H. obsoletus* were studied in the field as well as in the laboratory. A national survey revealed that *H. obsoletus* is present in vineyards of southern, western and northern Switzerland; however, no specimens were caught in the east of Switzerland, where evidence for the disease is lacking. Even though field bindweed (*Convolvulus arvensis* L.) is much more abundant in Swiss vineyards than stinging nettle (*Urtica dioica* L.), *H. obsoletus* was captured almost exclusively on the latter. Molecular analyses revealed that specimens captured were infected with stolbur strains tuf-type a and tuf-type b, associated with *U. dioica* and *Convolvulus arvensis* or *Calystegia sepium* L., respectively. Two-choice experiments in the laboratory showed that *H. obsoletus* adults preferred to feed and to oviposit on stinging nettle compared to field bindweed. Similar two-choice experiments also indicated that nymphs do not inherit a host plant preference even though they developed significantly better on stinging nettle compared to field bindweed. Likewise, adults survived significantly longer on stinging nettle compared to bindweed or any other plant species tested. In conclusion, there is good evidence that *H. obsoletus* is the most important insect vector of bois noir in Switzerland and that the insect prefers to feed, to oviposit and to develop on *U. dioica*. Stinging nettle therefore plays a central role in the epidemiology of “bois noir” in Swiss vineyards.