Diversity of Auchenorrhyncha species and potential "bois noir" vectors in Serbian vineyards

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"Bois noir" (BN) represents an important grapevine disease caused by stolbur phytoplasma belonging to 16SrXII-A ribosomal subgroup (Lee *et al*., International Journal of Systematic Bacteriology, 48, 1153-1169. 1998). It has a wide distribution in all European countries where grapevine is growing. The diversity of Auchenorrhyncha species was studied in three vineyards, in central, northern and eastern Serbia, where there was a high percentage of BN infected plants. Hemipteran vectors were collected using sweep nets and mouth-aspirators from grapevine and weeds present in vineyard inter-rows and borders. DNA was isolated from individual insects and amplified using a modification of the stolbur phytoplasma-specific nested PCR protocol (Clair *et al*., Vitis, 42, 151–157. 2003). A total of 4,971 specimens belonging to 8 families and 49 species were collected. The most numerous was Cicadellidae with 30 species, followed by Cixiidae 7 species, Delphacidae 4 species, Aphrophoridae 3 species, and Dictyopharidae, Issidae, Cercopidae and Membracidae with only one species recorded. The most abundant species from all inspected sites were *Psammotettix alienus* (29.4%), *Dictyophara europaea* (10%), *Hyalesthes obsoletus* (9.2%), *Euscelis incisus* (6.4%) and *Reptalus quinquecostatus* (5.8%), *Neoaliturus fenestratus* and *Errastunus ocellaris* (about 4.2%), while presence of *Philaenus spumarius, Laodelphax striatella, Doratura impudica* and *Zyginidia pullula* was between 2.5 and 3.3%. PCR analyses for stolbur phytoplasma presence indicated that 4 out of 49 collected species harbored the BN phytoplasma: 38% of *H. obsoletus* (91/240), 15% of *R. quinquecostatus* (44/289), 8% of *R. panzeri* (4/49) and 12% of *D. europaea* (41/341) specimens. This is the first record of stolbur phytoplasma presence in *D. europaea*, but further studies are required to determine if it is a vector.