

## **Disseminating information on leafhopper, planthopper and psyllid vectors of phytoplasma disease**

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Phytoplasma disease vectors are found within the leafhoppers and planthoppers (Hemiptera: Auchenorrhyncha) and among the psyllids (jumping plant lice) (Hemiptera: Psylloidea). Around 100 vectors of phytoplasma are already known on a world basis but many more are likely to be recognized. Few comprehensive identification keys are available and details of pest species are mostly widely scattered in the specialist literature. They are not easily accessible with the exception of the account by Nielson (U.S.D.A. Technical Bulletin, 1382. 1968) "Leafhopper vectors of phytopathogenic viruses". This volume remains a specialist reference work – there are no whole insect figures or photographs, only some morphological drawings to assist in identification. However, in the past 40 years there have been many taxonomic changes in the status of the insect names. Also Nielson's volume only covered leafhoppers (Cicadellidae) and no work has been produced for the (less numerous) planthopper vectors. As well as changes in insect taxonomy, perhaps a more confusing problem in using Nielson's 1968 work is that phytoplasmas were then thought to be viruses, but his work does not differentiate between the two. Weintraub & Beanland summarized information on phytoplasma vectors (Annual Review of Entomology, 51, 91-111. 2006). The identification of known insects needs to be facilitated as well as a means to be able to assist in characterising potential vector species. A challenge in Europe and elsewhere is to detect new vector species and also monitor movements due to climate change. Our approach (funded by The Leverhulme Trust) will provide a comprehensive and accessible guide to the leafhopper, planthopper and psyllid vectors of phytoplasma, bacteria and virus diseases. Datasheets to known vectors will include high quality digital images of adult insects (and nymphs when available), taxonomic drawings of morphological features, and text on the identification, biology, pest status and distribution of each species. Introductory keys will assist in identification of different vector groups.