

differences, using electrophoretic techniques and chromosomal variation, are being studied by J.d.H. Characteristics of courtship and mating signals are being investigated by M.F.C. and Mr. J.S.Singhrao, using laboratory cultures. Preliminary results suggest geographical differences in some aspects of courtship songs.

The very preliminary results indicate that it may, indeed, be possible to identify populations of N.lugens from different areas. If so, it may then be possible to determine the importance of large-scale migration in causing outbreaks of this pest in tropical regions - a subject of considerable controversy and significance.

#### THE EFFECTS OF TREATMENT AND UTILIZATION OF MEADOWS ON AUCHENORRHYNCHA COMMUNITIES.

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Generally, the density, species composition and dominance structure of the Auchenorrhyncha faunas of meadows depend on characteristics of the vegetation, mainly its biomass, species diversity, structure, length of growing season and quality, measured by the content of nitrogen.

Use and management of meadows change the vegetation, introducing substantial disturbance in the plant cover, and indirectly affect the Auchenorrhyncha fauna by changing the relationships between plant biomass and both density of Auchenorrhyncha and the number of species represented. Increasing intensity of disturbance of meadow vegetation both decreases species diversity of Auchenorrhyncha communities and also increases the proportion of "weed" species such as Macrosteles laevis.

Quick changes in plant biomass of the meadow caused by mowing can intensify the reduction of Auchenorrhyncha and loss of species. But fertilizer application improves plant quality and this then increases the fecundity of female Auchenorrhyncha.