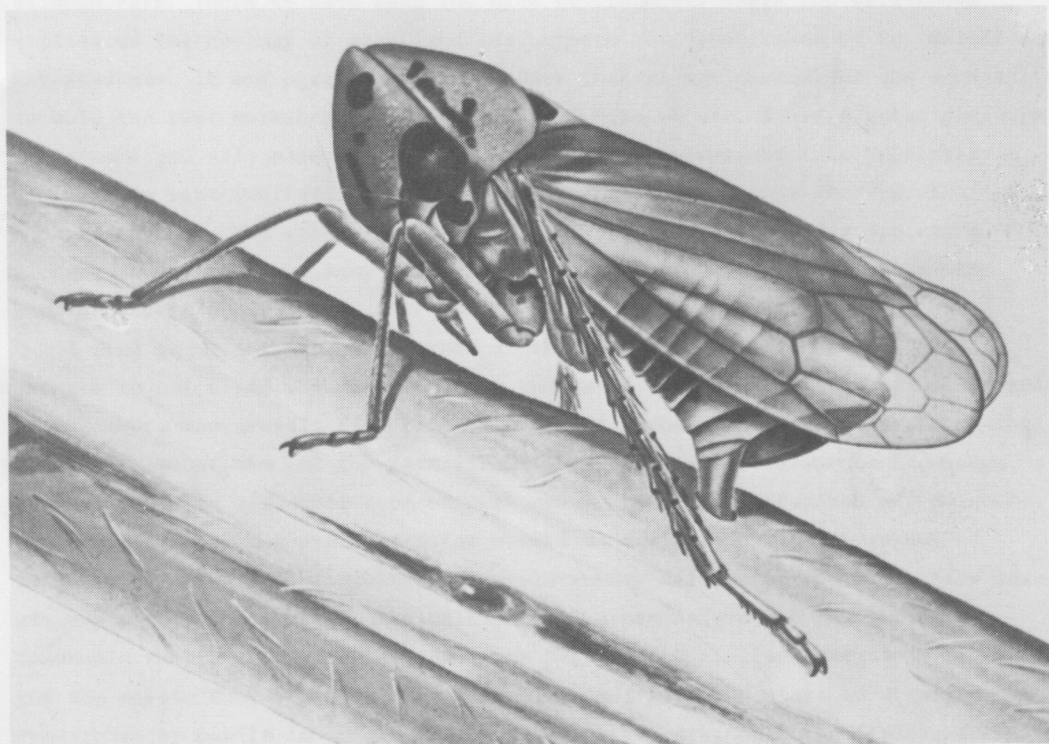


## AUCHENORRHYNCHA NEWSLETTER I

Abstracts of Auch.Workshop 23-25th August 1978, Wageningen, the Netherlands (edited by R.H.C., Laboratory of Entomology, Agricultural University, Wageningen).



Ovipositing *Macropsis fuscula* on *Rubus* (del. M.P.van der Schelde).

## OPENING ADDRESS

R.H.Cobben (Wageningen, the Netherlands)

The first Auchenorrhyncha Workshop (21 participants) was held in Cardiff 1973 through the praiseworthy initiative of Mike Claridge. That informal meeting was a great success and we must have great admiration for the Cardiff-group, grown-out prosperously and witness the fact that they are represented here with 8 lecture-giving people.

Nadja Waloff organized the second meeting in 1975 at the Field Station Silwood Park. There we have seen the nice environments where the well-known studies on the ecology of grassland leafhoppers were undertaken by Dr. Waloff and her students. It was agreed at Silwood Park that we would consider the possibility to hold the next workshop in Wageningen, and here we are. It is a great pleasure to welcome you all, also on behalf of the governing board of this University.

We have sent invitations to more than 80 people in Europe working with Auchenorrhyncha. The crop of participants present here is not disappointing, although we regret that many colleagues from the more eastern countries were handicapped in coming.

I find it my duty to commemorate at this occasion one of the most leading experts in our field who deceased last year at 82 years old. It is Wilhelm Wagner from Hamburg who greatly fostered the study of Auchenorrhyncha in Europe in this century. Without him and the late Ribaut from France, our taxonomic knowledge, a prerequisite for all other type of work, would have lagged far behind. Moreover, Wagner introduced new procedures for numerical analysis of the phylogeny of Delphacidae, in which branchings and evolutionary heights of the respective taxa are expressed. These original studies, which arose before the revolution in taxonomic theory in what we can call the Mayr-Hennig era, unfortunately did not get the merits they deserved. The work of Wagner gave the start to a variety of researches by pupils in quite different but often interconnected fields, such as phenotypic and genotypic variability, isolation and speciation, ecology, endosymbionts and their phylogenetic implications, parasitism etc.. All these subjects will in some way or the other be treated in this meeting. Simultaneously, this variety of subjects focused to only one, though diversified group of insects, demonstrates the viability of a workshop of this kind. Integration of subjects urges amalgamation of all data available in the

different disciplines. As said in the second circular: The main aim of our being together should be informal communication about our research topics, exchange of ideas and, eventually, mutual help in projects of joint interest.

I have not yet mentioned the role of Auchenorrhyncha as pest species, certainly an item which cannot be ignored now the conference is held within the building of an Agricultural University. In 1976, a special seminar in Japan was devoted to only one Auchenorrhynchous species: the Rice Brown Planthopper, Nilaparvata lugens, the lectures of which are compiled in a book of more than 250 pages. Thus, the economic importance of this single insect speaks for itself. It is said that 200 years ago more than 100.000 people starved to death in Kyushu because of a famine caused by this pest. We are extremely glad that one of the participants of that seminar, Dr. Mochida, who coordinates the research on this topic in Indonesia, is able to attend our workshop. He, Claridge and den Hollander will bear the brunt of this workshop in discussing the brown planthopper problem of nowadays.

The capability of Auchenorrhyncha in transmitting virus diseases is well-known, but their role in transmitting mycoplasmas and rickettsia's is recognized only in recent years. At least 20 species of plant- and leafhoppers are now known to cause mycoplasma infections, of which 12 in Europe. It is interesting to mention here that the first leafhopper-borne disease known from Western-Europe was recorded from the Netherlands in 1953. It concerned the so-called 'rubus stunt', now known to be a mycoplasma, in heavily infested raspberry cultures. The vector appeared to be the cicadellid Macropsis fuscula. De Fluiter & van der Meer, entomologists of the Institute for Phytopathological Research in Wageningen, performed experiments with Macropsis on various Rubus-species. The status of the different Macropsis populations used were taxonomically evaluated by Wagner in 1953, considering also the experimental data on hostplants. He described M. brabantica as new; it lives only on Rubus caesius and is not able to develop on raspberry. The original species M. fuscula lives on raspberry and can survive only on some Rubus species with black berries. The third species, M. scotti lives exclusively on a few Rubus with black berries, but it dies on raspberries. The differences of the three Macropsis spp. (penis shape and pigment design on the head) are so minute but constant, that they can be handled only by a specialist on the population level. This example is instructive for our workshop in three respects: first, Auchenorrhyncha are often superb plant-taxonomists and we should handle no lower taxonomic standards than they practice; second, the consequences of the example given for economic entomology and phytopathology are very evident;



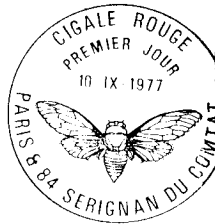
## *LA CIGALE ROUGE, croissance et métamorphose.*

Chez les insectes et de nombreux arthropodes, le petit qui sort de l'œuf ressemble nettement, peu ou pas du tout aux adultes l'ayant engendré. Dans le premier cas le petit est appelé "jeune", dans les deux autres il s'agit de "larves". L'aspect de la cigale nouveau-née ne fait qu'évoquer celui de ses parents : c'est une larve ayant au plus 2 mm de long, totalement dépourvue d'ailes, qui présente une forte protubérance sur le devant de la tête et qui est munie de pattes antérieures spécialisées pour fouir. Car c'est sous terre, à l'opposé des adultes dont la vie est aérienne, que la larve va accomplir son développement postembryonnaire.

Ce développement se déroule de façon étonnante, en une série d'étapes successives séparées par des mues, au cours desquelles l'insecte s'extrait de sa vieille peau. Ce phénomène est rendu nécessaire par le fait que le tégument cuticulaire de l'insecte, sa peau en quelque sorte, dure et inextensible constitue un véritable "exosquelette" qui s'oppose à l'augmentation continue de la taille. Pour grandir, l'insecte doit donc quitter périodiquement son enveloppe rigide devenue trop petite, en élaborer une autre plus ample.

La larve de notre cigale effectue ainsi 4 mues, dites de croissance, tout en conservant grosso modo le même aspect général, mais en développant, chaque fois un peu plus, les ébauches externes de ses ailes et de ses pièces génitales. La 5<sup>e</sup> et dernière mue est plus longue à venir : elle demande environ 12 à 13 mois pendant lesquels se prépare un changement spectaculaire dans la forme. A terme en effet, la dernière mue ou mue imaginale va libérer un insecte dont l'aspect n'aura qu'une lointaine parenté avec celui de la larve, celle-ci s'étant littéralement métamorphosée en une cigale, en un bel insecte ailé, parfait, imago de son espèce. La mue imaginale se réalise au début de la nuit, en 1 h 30 environ, mais il faudra encore quelques heures pour qu'apparaissent les couleurs définitives et en particulier le joli rouge des nervures alaires.

Texte et photographies de Michel BOULARD



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N. 276

Greetings from the Aachen. Workshop

23-25 Aug. '78

Wageningen.

To dr. Ossiannilsson.

Alis Reij

RA

H. Strikling

U. Zobel

A. Ali

~~Partip~~

Kees den Bieman

~~W. Graet~~

~~W. J. Jansen~~

~~S. D. Jansen~~

J. A. van der Meer

Pouder Hazoué

Albert D. Durr

~~J. J. Jansen~~

Alexander Kerk

~~J. J. Jansen~~

M. S. Thom

Hans Duffel

J. J. Jansen

W. J. Jansen

H. J. Jansen

Walter Le Zwaan

Nadia Niek

Heidi Günthart  
Ernst Günthart

P. D. S. Jansen

Ole; Haeble

Luzyna Andrejewska

C. M. M. Jansen

Mrs. C. Machida (持田 幸子)

Mauritine Kober Günthart

M. A. Jansen

John Holland

R. J. Jansen

W. Sluvenmuller

W. de la Giustina

Peter de Vries

third, cooperation often is needed to give the best results and practical solutions.

We had hoped to reserve more opportunity in our workshop to such applied aspects. Specialists in this field, who were especially invited, regretted it very much that they had to be present elsewhere.

The design of this workshop was and is purposely moderately sized. Nevertheless we are very glad to may welcome two American colleagues. That they are placed at the end of the programma has no other reason than that their topics on different kinds of strategies form a solid and highly interesting closing of the sessions. We had some difficulties in arranging the lectures according to more or less related subjects and we hope that you find the programme not too heterogeneous.

The health of Dr. Ossiannillson did not allow him to be present here. Everybody knows his publication of 1949 entitled Insect Drummers. In a brilliant way he has proven the important role of sound communication, also in the small species of leafhoppers and planthoppers. A subject which has given rise to much sophisticated research; you will hear more about it today and tomorrow. I suggest that we send Dr. Ossiannillson this card with our signatures. (Card and signature are copied in the present newsletter). Photographs and text are made by Michel Boulard, Paris, who is at this moment exploring the tropical fauna of Cicadida pre-eminently the song-cicadas.

Finally, I am certainly hopeful that this workshop will yield successful results. The future intercourse in our research fields will become stronger. I wish you further, a pleasant and meaningful stay in this country.

BROWN PLANTHOPPER, NILAPARVATA LUGENS (STÅL) (HOM., DELPHACIDAE), PROBLEMS ON RICE IN INDONESIA.

O. Mochida & T. Suryana (Sukamandi, Subang, Indonesia).

Thirteen determined species are known as the members of the genus Nilaparvata. N. lugens is distributed widely in South and Southeast Asia, some Pacific Islands, and Australia. Rice plants damaged by Sogatella furcifera (Horvath) (Delphacidae) and N. lugens were recorded for the first time in Japan in A.D. 697. In South and Southeast Asian countries, however, N. lugens was not