

(Tabel 1). *X. coxi* bleek een vector van het 'tobacco ringspot' virus te zijn. Het 'strawberry latent ringspot' virus werd voor de eerste maal in Nederland overgebracht met *X-diversicaudatum*.

References

- Fulton, J. P., 1962. Transmission of tobacco ringspot virus by *Xiphinema americanum*. *Phytopathology* 52:375.
Hoof, H. A. van, 1966. Nematode populations active and inactive with regard to transmission of Nepo viruses. *Nematologica* 12:615-618.
Hoof, H. A. van, 1969. Onderzoek van virussen, die samenhangen met de grond. *Jversl. Inst. Pl-Ziekten. Onderz.* 1968:87-90.

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BOOK REVIEWS

Air Pollution, Proceedings of the First European Symposium on the Influence of Air Pollution on Plants and Animals (Wageningen 1968). Pudoc, Wageningen, 1969. 415 pages, price Dfl. 42.50, size 15 × 23 cm.

This Symposium was organized at the request of the Council of Europe. Its Committee for the Conservation of Nature and Natural Resources which conceived this idea had wished to hold it in the Netherlands.

Over 100 participants from 15 countries were present. They represented a wide range of disciplines, having no regular contact with each other. As all lectures were given at different times participants had an excellent opportunity to get acquainted with the work in other fields.

The Organizing Committee had invited two specialists on photochemical air pollution problems from the United States, as very little experience existed in Europe on the influence of such oxidizing products as ozone and peroxyacetylnitrate (PAN). These pollutants are of increasing importance in Europe owing to the rapid expansion of motorized traffic, especially automobiles, and industry. The lectures were concentrated into the following sections:

1. Inventory of damage due to industrial and urban air pollution and research done in relation to this pollution.
2. Experimental research.
3. The effects of air pollution on plants.
4. The effects of air pollution on vascular plants.
5. The effects of air pollution on non-vascular plants.
6. The effects of air pollution on animals.
7. Measuring air pollution in vascular plants.
8. Measuring air pollution in non-vascular plants.
9. Resistance of plants to air pollution.
10. Shelter belts for air purification.

In each session there were one or two general lectures by invited speakers followed by a number of short communications. Lectures were given in English, French or German. At the end of each paper a summary in the two other languages is given. Ample time was reserved for discussion of the theme of each session. A summary of these discussions is printed at the end of each section.

In an epilogue Mr. Eilers, chairman of the Committee of Experts on Air Pollution of the Council of Europe, gave an excellent survey of the main items of the Symposium.

Because much more work has been done on the influence of air pollution on domestic animals and on cultivated plants (including forest trees) than on the wild flora and fauna, most of the lectures dealt

with these subjects, but some, especially the Czechoslovak contributions, gave very valuable information on the influence of air pollution on the natural flora and fauna. Section 5 covered the influence on bryophytes and lichens of which especially the latter are very sensitive; many species disappear rapidly from urban and town areas if concentrations of SO_2 exceed $50 \mu\text{g per m}^3$. The occurrence of lichens may therefore be regarded as evidence that the air is little or not polluted by SO_2 .

Much attention was paid to the selection and use of indicator plants in polluted areas, a method adopted already for many years in the United States and the Netherlands.

The damage done to vegetation is mainly due to sulphur dioxide (SO_2), hydrogen fluoride (HF), nitrogen dioxide (NO_2) and substances present in an oxidizing atmosphere (ozone and PAN).

Many papers dealt with the influence of HF on plants. Very interesting results were obtained in Switzerland where fertilizers appeared to increase the damage done by HF to apricots and grapevines. The results reported were so new that the conclusions given in the Proceedings had to be revised afterwards in a publication of the senior author. It became evident that the increase in susceptibility of these crops to HF was due to boron salt additives to normal NPK fertilizers.

The sensitivity to the types of air pollutants varies widely between plant species and even their varieties. Much information on this topic was provided during the Symposium.

The influence of fluor compounds on cattle and poultry, but also on hares, frogs, sparrows and pigeons, was explained. Information was given on the influence of lead compounds of industrial origin and from exhausts of motorcars.

The difficult subject of the influence of shelter belts on air pollution was also discussed.

In the closing session five recommendations for a closer international collaboration and for international agreements were accepted to be sent to the Council of Europe. It is hoped that further symposia on this subject will be organized in the near future.

In the meantime the International Society for Plant Pathology established an International Committee for Pollution Damage to Plants (I.C.P.D.P.). Secretary: Prof. Dr F. A. Wood, Pennsylvania State University, University Park, Pennsylvania 16802, U.S.A.

J. G. ten Houten

Nijveldt, W.: Gall midges of economic importance, Vol. 8: Miscellaneous. Crosby Lockwood, London, 1969. 222 pag. 28 figures, price 46 sh.6d.

Seven volumes of the monograph on gall midges of economic importance were completed at the time of Dr Barnes' sudden death in 1960. It is remarkable that a so fascinating field of insect-host relationship has attracted so few research workers, able to continue these studies. One of them, W. Nijveldt, very successfully fulfilled the difficult task to write the last volume with the aid of many notes and papers left by Dr Barnes.

This volume reflects the great diversity of habits of larval Cecidomyidae. In the first part notes on miscellaneous gall midges are brought together. The subdivisions in this part are dealing with gall midges whose larvae are zoophagous, fungivorous and gall midges whose larvae attack weeds.

The well-ordered classification of the many scattered biological data makes this remarkably interesting field now also approachable for non-specialists. There is a very useful two-way entry by the way of a gall midge index and a plant/prey index. Out of every section comes the need of a deeper understanding of the biological complex, as is demonstrated by a subdivision at p. 91: 'Unidentified rusts, attacked by unidentified gall midge larvae.' These gaps form however as many stimuli for further study and exploration of this yet hardly known field of host-parasite relationship.

The second part of this volume contains a compendious survey of the identification of gall midges. According to the author the keys are of use to the entomologist only when he knows their failings, when he has an extensive collection for reference and when he is able to undertake breeding experiments if needed. The figures hardly contribute to clarifying and illustrating the taxonomical problems.

Some original notes by Dr Barnes on the biological approach to the species problem are included in this part. A multilateral approach is preferred. The book as a whole is a convincing plea for such a way of thinking.

This volume, dedicated to Dr Barnes, is intended to conclude the monograph. At the same time it can be a valuable starting-point for a new series.

F. L. Dicleman