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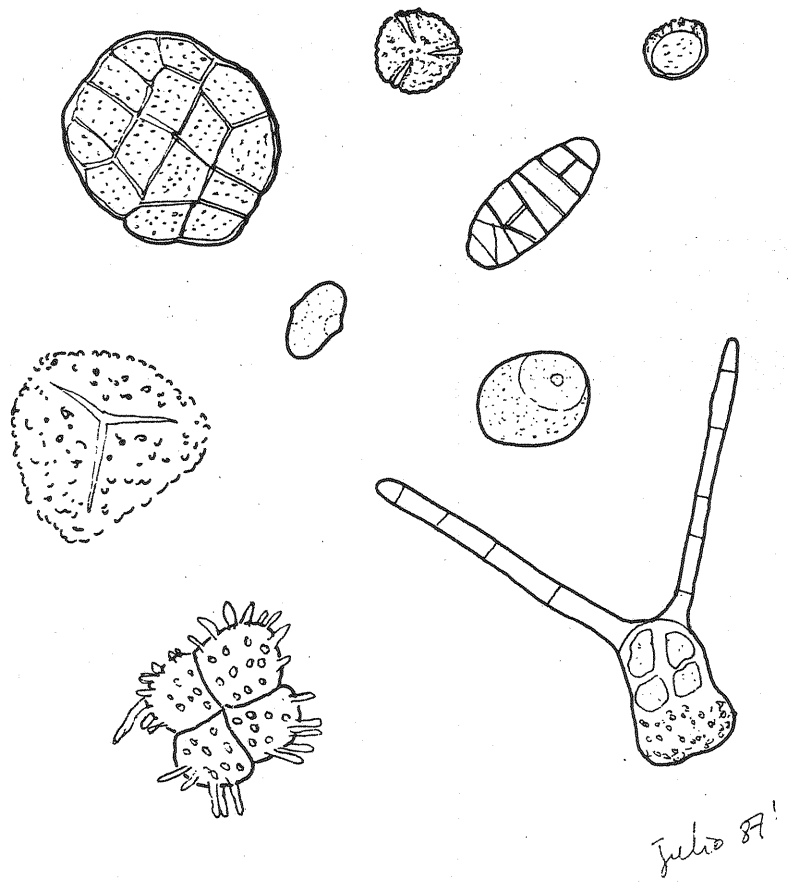
INTERNATIONAL AEROBIOLOGY NEWSLETTER

BIANNUAL PUBLICATION OF THE INTERNATIONAL ASSOCIATION FOR AEROBIOLOGY



OCTOBER 1987

NO. 26

INTERNATIONAL AEROBIOLOGY NEWSLETTER
Number 26 October 1987

Estelle Levetin, Editor

Faculty of Biological Science
The University of Tulsa
Tulsa, Oklahoma 74104, USA

CONTENTS

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Cover Illustration - The cover illustration for this issue was sent in by Dr. Ines de Hurtado, Caracas, Venezuela. She writes "I submit the accompanying drawing for the cover of the newsletter. It is the work from my associate Julio Alson-Haran. In Caracas, Venezuela, we recover year-round a varied lot of pollen grains and spores. A few of them are illustrated. Next to spores of fern, *Dictyoarthrinium, Pleospora, Spegazzinia* and *Tetraploa*. The less familiar pollen grains of Menispermaceae (*Cissampelos*), Piperaceae, Moraceae (*Cercropia*), and Urticales may be seen."

Submit drawings of aerobiological materials for the cover of the newsletter. Drawings should be in black ink on white paper. Send to Newsletter Editor.

Annual financial report from the Treasurer of the International Association for Aerobiology IAA from July, 1st 1986 untill June, 30 1987

	Expenses	Revenues	Kreditanst.-Saldo		
				SFr. 18'773.20	June 30, 1986
July 1986	SFr.	SFr. 48.60	in Switzerland	SFr. 18'821.80	July 31
September	SFr. 88.--	SFr. 741.50		SFr. 19'475.30	September 30
October	SFr.	SFr. 144.--		SFr. 19'619.30	October 31
November	SFr. 3010.--	SFr. 40.--		SFr. 16'649.30	November 30
December		SFr. 622.95		SFr. 17'272.25	December 31, 1986
January 1987	SFr. 105.--	SFr. 408.--		SFr. 17'575.25	January 31, 1987
February		SFr. 504.40		SFr. 18'079.65	February 28
March	SFr. 1627.--	SFr. 147.--		SFr. 16'599.65	March 31
April		SFr. 1181.95		SFr. 17'781.60	April 30
May		SFr. 292.35		SFr. 18'073.95	May 31
June		SFr. 476.67		SFr. 18'550.62	June 30, 1987
	SFr. 4830.--	SFr. 4607.42			

Saldo June 1986 Kreditanstalt	SFr. 18'773.20		
./. Expenses	SFr. 4'830.--		
+ Revenues	SFr. 4'607.42	= SFr. 18'550.62	
Final Saldo 30 June 86 (included cash etc. and German fees)	SFr. 20'388.39	= $ 11'358.43	(see financ. report 30 June 1986
Final Saldo 30 June 87	SFr. 18'550.62		
./. postage from 1986*	SFr. 529.30		
	SFr. 18'021.32	= ca. $ 11'856.13	
		= ca. $ 1'462.87	from Germany
		ca. $ 13'319.--	

The dollar account is put after the information of the bank house

* postage untill June 1987 is taken of the account of the conference

Basel, begin of September 1987

The Treasurer

The Revisors

Budget of the International Association for Aerobiology 1987/88

Revenues: Membership-fee	SFr. 4,600.--	
Expenses: Newsletters	- SFr. 4,000.--	
Postage for Treasurer	- SFr. 500.--	
Unforseen Expenses	- SFr. 200.--	
Debit	SFr. 100.--	

There is no money for travelling or for printing stationary. Unfortunately the membership fee is so low, that the income is under the expenses we have.

Ruth Leuschner
Treasurer, IAA

NOTICE OF PRICE INCREASE FOR GRANA

At the annual meeting of the Collegium Palynologicum Scandinavia, it was proposed that the number of pages of GRANA be increased from 256 to 320 pages per volume, i.e. one additional issue of 64 pages per year beginning in 1988. According to the agreement worked out with Almqvist & Wiksell, the additional issue will result in an increase in the subscription price from $25 (US) to $33 - an increase of $8. This price is still the reduced subscription rate for IAA - members. Regular subscritions to GRANA (for non-members) will increase to $133.

REPORT FROM THE AEROBIOLOGY METHODS GROUP

The working group has now been formed and is investigating samplers for aerosols, especially bioaerosols. The goal is to describe the state of the art equipment for aerosol samplers. Since sampling determines the concentration of aerosols, it is the basis for dose response evaluations for exposure. The working group consists of scientists (from Denmark, Finland, Sweden and the USA) working with pollen, various microorganisms, insects and particle aerosols. The literature work has begun and the possibility of communicating via computer network is being investigated.

Eva Henningson
Convener

PRELIMINARY REPORT FROM THE WORKING GROUP: European Aeroallergen Network (EAN)

The purpose of the working group is to collect information regarding aerosampling of pollen grains and spores in Europe; the number of sampling years and sites and methods used; the type of allergy service; ways of reporting and forecasting; and the occurrence of pollen/spore calendars and other publications. The data available will permit construction of standard calendars, a responsibility taken by Dr. F.Th. Spieksma, (The Netherlands). A close collaboration has been established with the German Foundation for Pollen Service, (Dr. W. Kersten, Mr. P. Boing, P.G. von Wahl). The results, recommendations and standards proposed by the working group are to be published as a booklet by the next IAA-Conference in Stockholm (1990).

A first questionnaire was distributed in early 1987 to a number of interested people in several European countries. So far representatives from 18 countries have replied: Austria, Belgium, FRG (W. Germany), Bulgaria, Czechoslovakia, GDR (E. Germany), Denmark, Finland, France, Italy, The Netherlands, Norway, Poland, Spain, Sweden, Switzerland, U.K. and Yugoslavia. Efforts are still being made to contact representatives from the countries who have not yet replied, before the working group is finally established. A second questionnaire is being sent out in the near future.

Siwert Nilsson
Convener

TROPICAL AIRBORNE POLLEN WORKING GROUP

At the Basel Conference in August, 1986, I convened a Working Group on Tropical Airborne Pollen. Three additional members of IAA met to inaugurate this new group: Dr. Boonchua Dhorranintra, Department of Pharmacology, Siriraj Hospital, 10700 Bangkok, Thailand, Dr. Ines de Hurtado, Experimental Allergy Laboratory, CMBC Apartado 1827, Caracas 1010A, Venezuela, and Dr. A.H. Rajasab, Department of Botany, Gulbarga University, Gulbarga 585 105, India. In addition, Professor Sunirmal Chanda, Department of Botany, Bose Institute, 93/1 Acharya Prafulla Chandra Road, Calcutta 700 009, India, who was unable to attend the Basel meeting, nevertheless wrote eloquently earlier in the year regarding his interest in and the need for such a Group. If I may quote from our president's letter: "A large number of scientists are now working on the various problems of Tropical Aerobiology in a global perspective. In view of the numerical magnitude of the tropical plants, it is desirable that a concerted effort be made to understand the behavior, allergenic and pathogenic potentialities of the spores and pollen grains released by such plants, especially with regard to the rate of pollen/spore production, dispersal mechanism, pollination ecology, etc." Even though our attention at present is limited to tropical pollen, this statement clearly focuses on the long-range goals of the Working Group since aerobiology in the tropics is recognized as a relevant factor in many areas of biology, medicine, agriculture, and stratigraphy.

Our immediate objective is to produce a bibliographic booklet consisting of all publications of airborne pollen from tropical areas by the time of the 1990 Stockholm Conference. This will cover approximately a region between the Tropics of Cancer and Capricorn. References will be computerized and, thus, can be organized by author, subject, country, etc. for ease of referral.

Members who met in Basel have already submitted lists of references pertaining to airborne tropical pollen. Others who wish to join the Group and who are willing to send their literature reference files for incorporation into the data base are requested to do so as soon as possible. All help in putting together this booklet will be welcomed and appreciated in order that the IAA membership may have it available by 1990.

Walter H. Lewis
Convener

PUBLICATIONS COMMITTEE

The Publications Committee is one of four Standing Committees of IAA established at the 3rd International Conference on Aerobiology, Basel, 1986. The Committee will assist the five Working Groups in questions related to publication of their results (booklets) before the next IAA Conference in Stockholm (1990). **Manuscripts must be ready for printing not later than July 1989.** Each convener is expected to explore the financial and printing facilities in due course of time and communicate the progress of their Working Group to the Publications Committee. The Publications Committee needs your close collaboration to fulfill its responsibilities to the IAA International Congress in 1990.

Siwert Nilsson
Chairman, Editor of Grana

ADVERTISEMENTS

The International Aerobiology Newsletter can accomodate a limited number of advertisements for equipment, books, or supplies which would be of interest to IAA members. Supporting members of the IAA are entitled to receive free of charge a one-page advertisement once a year. The page-charges for others is $250 (US) for a full-page advertisement or announcement or $150 (US) for one-half page. The page-charges will be used to help pay for Newsletter printing costs. Send camera-ready copy to E. Levetin, Newsletter Editor.

Plan to attend the 4th International Conference on Aerobiology
Stockholm, Sweden - September 3-7, 1990

REPORTS FROM RECENT SCIENTIFIC MEETINGS

EUROPEAN POLLEN FLIGHT SYMPOSIUM

The first European Symposium on Pollen Flight (Europaisches Pollenflug Symposium) was arranged jointly by the the Friedrich Naumann Stiftung and the Stiftung Deutscher Polleninformationsdienst. The symposium took place in Konigwinter/Bonn, West Germany on March 20 and 21, 1987. More than 60 people from 11 countries participated in the two day symposium.

The actual pollen service, plans, and research in Austria, Belgium, DDR, Denmark, Finland, France, Italy, The Netherlands, Sweden, Switzerland, and West Germany were briefly reported. The organization and pollen service in West Germany, which represents 12 regions monitoring pollen, were presented in more detail during an afternoon session.

The symposium was an important step forward in promoting standardized pollen measuring and reporting in Europe. The organizers from the German Pollen Service Foundation (Dr. W. Kersten, Mr. P. Boing, and others) and the Friedrich Naumann Foundation have to be thanked and commended for the initiative taken and for a successful symposium. The results of the symposium will be published at a later time.----S. Nilsson

THE 6TH NORDIC AEROBIOLOGIC SYMPOSIUM

Ten years ago the Nordic Aerobiological Federation (NAF) was formed. NAF is associated with IAA and has about 70 members from Denmark, Finland, Iceland, Norway, and Sweden. A NAF letter is distributed two to three times a year and every four years a symposium is arranged in the Nordic countries. This year the symposium was held in Gildetun, in the northern part of Norway, from June 13-16. There were 43 participants including physicians,botanists, microbiologists, and chemists. The presentations and discussions were interesting and fruitful.

Topics presented include - data of the prevalence of pollen and spores in Scandinavia and the Antarctic; seasonal variation of pollen in Norway over a 12 year period; a computer program for handling pollen data; methods for sampling pollen, molds, and toxins; methods for testing sampler efficiency; methods of analysis based on immunological reactions of bioaerosols; evaluating the dose-response effects of exposure to bioaerosols; the medical effects of exposure

to molds in home environments; studies of short time exposure to nitrogen dioxide; study of cross reactivity to chironomids and mites; and treatment of birch pollen allergy.

A business meeting of the NAF was also held and the following officers were elected: President, Eva Henningson; Vice President, Markku Käpylä; Secretary/Treasurer, Auli Rantio-Lethimäki; Elected Representatives, Suzanne Gravessen and Hallvard Ramfjord.----E. Henningson

XIV INTERNATIONAL BOTANICAL CONGRESS

The XIV International Botanical Congress met in Berlin from July 24 to August 1,1987. Approximately 4000 delegates, representing many aspects of botany, attended the Congress. Many IAA members participated. Abstracts of the Congress are available. Papers presented on pollen morphology and development included the following:

POLLEN MORPHOLOGY OF CORDIOIDEAE: AUXEMMA, CORDIA, AND PATAGONULA (J.W. Nowicke and J.S.Miller, Smithsonian Institution, Washington,DC 20560,USA and Missouri Botanical Garden, St. Louis, MO 63166,USA)

EVOLUTIONARY AND TAXONOMIC SIGNIFICANCE OF THE POLLEN MORPHOLOGY OF APOCYNACEAE (S. Nilsson, Palynolgical Laboratory, Swedish Museum of Natural History, S-104 05 Stockholm, Sweden)

A PALYNOLOGICAL STUDY (TEM) OF FORMOSAN APOCYNACEAE (T.C. Huang, Dept of Botany, National Taiwan University, Taipei 10670, Taiwan, ROC)

POLLEN MORPHOLOGY OF THE TRIBE DORSTENIEAE (MORACEAE) (W.Punt, Laboratory of Paleobotany and Palynology, Univ of Utrecht, Heidelberglaan 2, 3584 CS, Utrecht, The Netherlands)

FLUID AND SOLID MECHANICS OF POLLEN WALLS WITH SPECIAL REFERENCE TO THE COMPOSITAE (M.R. Bolick, Div. of Botany, Univ of Nebraska State Museum, Lincoln. NE 68588 USA)

GORDON RESEARCH CONFERENCE ON AEROBIOLOGY 1987

The third Gordon Reserarch Conference on Aerobiology was held in New London, New Hampshire (U.S.A.) in August 1987. Stephan Hall and Ted Martonen were Chairman and Vice Chairman respectively. Forty-two individuals, many of them IAA members, attended the week-long conference, and twenty-three

papers were presented on topics ranging through ice nucleating bacteria, aerosols in the lung, indoor air quality, red tide aerosols, and pollen seasons.(Titles of the papers and author were listed in Newsletter No. 25.) Abstracts and proceedings are not available, in keeping with Gordon Research Conference policies of prohibiting publication of any information from the Conferences. The no-publication policy is to encourage the presentation of new ideas and research data during the Conference.

Ted Martonen and Harriet Burge were elected Chairman and Vice Chairman of the next Conference; the theme and date of the next meeting are not yet selected.----S. Hall

11TH INTERNATIONAL CONGRESS OF BIOMETEOROLOGY AND 8TH CONFERENCE OF BIOMETEOROLOGY AND AEROBIOLOGY

The joint meetings of the International Biometeorology Society and the 8th B&A Conference of the American Meteorology Society were held at Purdue University in West Lafayette Indiana (USA) from September 14-18, 1987. Approximately 250 scientists attended the meetings. The themes of the conference included the future of biometeorology and the changing carbon dioxide levels in the atmosphere. Abstracts of the Biometeorology Congress and extended abstracts of the B&A Conference are available. The following papers were presented during the Aerobiology session:

AN EXAMINATION OF SOME URBAN AND RURAL PARTICULATE LEVELS DURING THE INTENSIVE AGRICULTURAL BURNING SEASON IN THE SACRAMENTO VALLEY OF CALIFORNIA (E.W. Linse, California Air Reserves Board, Sacramento, Calif)

DEPOSITION OF SPORES IN A WHEAT CANOPY (D.E.Aylor, Conn. Agric. Exper. Station, New Haven, Conn.USA and H.A.McCartney Rothamsted Exper. Station, Harpenden, Herts., England)

THE DISTORTION OF TURBULENCE BY AN ISOLATED SHRUB AND ASSOCIATIONS WITH ENTRAINMENT AND DEPOSITION OF SPORES (L.E.Hipps and M.F.Allen, Utah State Univ., Logan, Utah)

TRANSPIRATION'S INHIBITION OF AIR POLLUTION FLUXES TO SUBSTOMATAL CAVITIES (W.G.N. Slinn, Batelle Pacific Northwest Lab.,Richland Wash.USA)

OPTIMUM POLLEN SIZE: PHYSICAL IMPLICATIONS (K.T. Paw U and Carol Hotton, Univ. Calif. Davis, Calif, USA)

A RE-EVALUATION OF AEROALLERGENS IN NORTHEAST OKLAHOMA (E.Levetin and P.Buck, Univ. of Tulsa, Tulsa, Ok, USA)----E. Levetin,

UPCOMING MEETINGS

XXI ANNUAL CONVENTION OF INDIAN COLLEGE OF ALLERGY AND APPLIED IMMUNOLOGY

The XXI Annual Convention of the Indian College of Allergy and Applied Immunology will be held at the Bangalore Medical College, Bangalore, India from December 11 to 13, 1987. The scientific program is being planned to include several symposia, panel discussions, free oral presentations, poster sessions, pre-conference workshops on allergy, aerobiology, and immunology,and exhibition of scientific, pharmaceutical and technical interest. To receive registration materials and conference details contact Dr. Shripad N. Agashe, Organizing Secretary, XXI ICAI Convention, 401. 41st Cross, 9th Main, 5th Block, Jayanagar, Bangalore 560 041 India.

AEROSOL SOCIETY GROUP MEETING

The Aerosol Society Specialist Group Meeting will be held at Rothamsted Experimental Station on January 20, 1988. The topic of the meetings will be "Aerosol Dispersal In and Above Crops". For information contact Dr. J.Lacey, Rothamsted Experimental Station, Harpenden Herts., AL5 2JQ, United Kingdom.

7 INTERNATIONAL PALYNOLOGICAL CONGRESS

The 7th International Palynological Congress will be held at the University of Queensland in Brisbane Australia from 28 August to 3 September 1988. All persons wishing to participate are urged to request Congress information and abstract forms as soon as possible. Write to - 7 IPC, Uniquest Ltd, University of Queensland, St. Lucia Qld, Australia 4067. **ALL ABSTRACTS FOR THE CONGRESS MUST BE RECEIVED BY JANUARY 31, 1988.** The following symposium topics are included in the Congress:

1. Aerobiology in medicine
2. Biochemical aspects of pollen allergens
3. The significance of pollen morphology in biology and systematics
4. Pollen and spore ontogeny
5. Pollination mechanisms and interactions
6. Methodological advances in palynology
7. Fine resolution palynology
8. Modern pollen-rain studies
9. Revisions of nomenclatural types
10. Palynology of fructifications
11. Evolutionary morphotrends in palynology
12. Palynologic/lithologic relationships
13. Palynology of dry lands
14. Climatic phytogeography of Mesozoic and Cenozoic
15. Angiosperm origins and history: the pollen record
16. Palynologic record of the Proteaceae
17. Tertiary palynology of tropical regions
18. Late Cenozoic palynology of circum-Pacific regions
19. Prospects and problems in Cretaceous palynostratigraphy
20. Palynology of the Cretaceous/Tertiary boundary
21. Quaternary and prehistory palynology and climate
22. Coal palynology
23. Forensic palynology
24. Melissopalynology
25. Maturation and source rock analyses
26. Methods of kerogen analyses for hydrocarbon exploration
27. Algae of freshwater systems
28. Dinoflagellates and acritarchs as environmental indicators
29. Dinoflagellate morphology and evolution
30. Dinoflagellate biostratigraphy
31. Acritarch morphology and stratigraphy
32. Fungal palynomorphs
33. Megaspore morphology and stratigraphy
34. Late Paleozoic and Early Mesozoic Palynofloras: support for concepts of Gondwana and Laurasia
35. Precambrian paleobiology
36. Chitinozoa and scolecodonts
37. Palynology of ore deposits
38. Jurassic palynostratigraphy
39. Evidence of early land floras

SEVENTH INTERNATIONAL CONGRESS ON AEROSOLS IN MEDICINE

The Seventh International Conference on Aerosols in Medicine will take place in Rochester, New York from September 25 - 29, 1988. To be placed on the mailing list to receive further information and registration forms, write to-International Congress on Aerosols in Medicine, University of Rochester Medical Center, Box 677, Rochester, New York 14642, USA.

Preliminary Program

A. Symposia:

I. Aerosol Generation and Administration in Physiological and Medical Studies
II. Therapeutic Applications of Aerosols
III. Diagnostic Applications of Aerosols
IV. Human Inhalation Studies

B. Poster Sessions

1. Detection, quantification and variability of aerosol deposition and clearance
2. The use of aerosols in functional and structural studies.
3. Challenge tests using aerosols
4. Treatment of pulmonary diseases by inhaled aerosols
5. Treatment of non-pulmonary infections and diseases by aerosol
6. Delivery of aerosols: New techniques
7. Health-related effects of environmental and occupational aerosols
8. Aerosols and energy generation: Characteristics and health implications
9. Aerosols in miscellaneous settings (e.g. health resorts, homes, aircrafts)
10. Non-therapeutic aerosols such as preventive and cosmetic

XIV CONGRESS OF THE EUROPEAN ACADEMY OF ALLERGOLOGY AND CLINICAL IMMUNOLOGY

The XIVth Congress of the European Academy of Allergology and Clinical Immunology will be held in West Berlin from September 17-22, 1989. To be placed on the mailing list for Congress information write to Congress Management, XIVth EAACI Congress, Letzter Hasenpfad 61, D-6000 Frankfurt am Main 70, Federal Republic of Germany.

The scientific program will include the following main topics:

1. Inflammation and allergy
2. Mast cells: ontogeny and function
3. Regulation of the IgE-response
4. Neurophysiological aspects of allergy
5. Organ specific allergy
6. Immunodeficiencies
7. Mechanisms of auto-immune diseases
8. Environment and allergy
9. Pediatric allergy
10. Current concepts of therapy

Workshops and symposia on many allergy topics will be organized. All participants will be invited to present free communications and posters on the above mentioned and related topics.

OTHER MEETINGS

Annual Meeting - European Acad. Allergol. Clin. Immunol., June 20-22, 1988, Copenhagen, Denmark. For information write to: P.O. Box 2205, DK-1018 Copenhagen K, Denmark.

Botanical Society of America, Annual Meeting, August 14-18, 1988, Univeristy of California at Davis, California (USA).

Mycological Society of America, Annual Meeting, August 14-18, 1988, University of California at Davis, California (USA).

13th International Congress Allergology and Clinical Immunology, October 16-21, 1988, Montreux, Switzerland.

8th World Clean Air Congress (IUAPPA), September 11-15, 1989, The Hague, The Netherlands. For information write to: P.O. Box 186, NL-2600 AD Delft, The Netherlands.

REMINDER - Send notices of upcoming meetings to the Newsletter Editor. Be sure to include details about the date and location of the meeting as well as the name and address of a contact person.

4TH INTERNATIONAL CONFERENCE ON AEROBIOLOGY 3-7 SEPTEMBER 1990 - STOCKHOLM, SWEDEN

The first Program Committee Meeting was held in Stockholm on 18 September 1987 with 17 members present. The following congress officers were appointed Dr. S. Nilsson (President), Dr. Eva Henningson (Scientific Secretary) assisted by Dr, G. Bylin (Associate Secretary). Other officers include Mrs. C. Tannlund (Administrative Secretary), Mrs A. Mellin (Executive Secretary) and Dr. J.T. Johansson (Treasurer). Dr. M. Hjelmroos is President of the Local Organizing Committee. The scientific program will consist of Symposia, General Lectures, Workshops, and Films.

Symposium topics were discussed and provisional titles suggested include:

1. The significance of air pollution in aerobiology
2. Aeroallergens
3. Meteorological aspects in aerobiology
4. Ecological aspects in aerobiology - past and present
5. Bio-aerosols indoors
6. Methodology, sampling, and analyzing
7. Microbiology: Fungi, mites, spores, etc.
8. Phytopathology
9. Committees and Working Group Reports (General Symposium)
10. Minisymposia on special topics

Two workshops were proposed: 1. Identification of airspora and 2. Computers in aerobiology. Further suggestions on workshop topics and minisymposia are welcome.

Three special committees have been established: 1. Exhibition Committee, 2. Social Program Committee, and 3. Excursion Committee. A provisional excursion program was discussed.

The First Announcement of the Congress will be issued in early 1988. The next Program Committee meeting is planned for May or June 1988.

Siwert Nilsson
President
4th IAA Conference, 1990

NEWS FROM IAA MEMBERS

Research News
New or Ongoing Research Projects by IAA Members

Gunnar Bylin - short term exposure studies with healthy and asthmatic subjects to determine the effects of nitrogen dioxide in ambient concentrations.

Franco Di-Giovanni - development of physical models of the atmospheric dispersion of tree pollen by wind and rain, in closed-canopy woodlands. Specifically, this is applied to Quaternary/Sub-recent pollen deposits to evaluate the vegetation pattern surrounding the site of sample retrieval. The present research concentrates on taking point samples on forest floors.(A Working Paper on this topic is available for distribution from Mr. Di-Giovanni at The Department of Geography, The University of Hull, Hull HU6 7RX, Great Britain.)

Sten Dreborg - immunotherapy and allergy diagnostic trials, also evalauting the influence of anti-histamines and other drugs on skin reactivity.

J. Emberlin - Starting from spring 1987 pollen dispersal is being monitored in north London. Weekly and short-term (daily and six hours) samples are taken over a network of sites to investigate spatial and temporal variation in relation to meteorological variabilities and urban structure

Allen E. Gale - currently evaluating and resolving the problem of mold on indoor walls and ceilings in residential dwellings. This mold appears as a black growth on the walls and ceilings. It appears to be associated with dampness arising from the ground. Information on the occurrence and remedy for this problem would be appreciated.(see new address below)

Syed Mohammed Hasnain - aerobiology and allergy: 3 cities are being surveyed by Burkard trap for airborne allergens; asthma prevalence study and skintesting are also being conducted (see Research Reports).

Vernon Knight - continuing to investigate small-particle aerosol generator as a means of administering antivirals.

Reddy Narayana Cheruku - aeromycology of Gulbarga City (India) market and incidence of market diseases.

A.G.Palma-Carlos - allergens of *Parietaria*

F.A.Powell - transport of particulate matter between Australia and MacQuarie Island.

C. Rajagopar and **D.W.Hide** - trigger factors in asthma

Edward Zawiska - mite-induced asthma in Poland.

Recent Publications by IAA Members

B.D.L.Fitt, P.J.Walklate, H.A.McCartney, A.Bainbridge, N.F.Creighton, J.M.Hirst, M.E.Lacey, and B.J.Legg. 1986. A rain tower and wind tunnel for studying the dispersal of plant pathogens by rain and wind. Ann. of Applied Biol. 109: 661-671.

B.D.L.Fitt, P.H.Gregory, A.D.Todd, H.A.McCartney, and O.C.MacDonald. 1987. Spore Dispersal and plant disease gradients, a comparison between two empirical models. J. of Phytopathology. 118: 227-242.

S. Dreborg, G. Nilsson, and O. Zetterström. 1987. The precision of intracutaneous skin test (ICT) with timothy pollen allergen preparation using two different techniques. Ann. Allergy 58: 33-35.

S. Dreborg, L. Belin, N.E. Eriksson, O.Grimer, G.Kunkel, H.J.Malling, G.Nilsson, I.Sjogren, and O.Zetterström. 1987. Results of biological standardization with standardized allergen preparations. Allergy, 42:109-116.

S.M.Hasnain. 1986. Breathing and inhalent allergens, TIMOHU,Journal of the Asthma Foundation of New Zealand.

J. Lacey and M.E. Lacey. 1987. Microorganisms in the air of cotton mills. Ann. Occup. Hyg. 31:1-19.

A.G.Palma-Carlos. 1986. Prevention of Asthma. Allergie et Immunologie, Paris.

A.G.Palma-Carlos. 1986. Plaintain pollinosis, Lisbon.

I. Rosas, G.Roy-Ocotla, P. Mosiño, A.Baez, L. Rivera. 1987. Abundance and heterogeneity of algae in the Mexico City atmosphere. Geof. Int. Vol. 26-3: 359-373.

F. Rivera, G. Roy-Ocotla, **I. Rosas**, E. Ramirez P. Bonilla, and F. Lares. 1987. Amoeba isolated from the atmosphere of Mexico City and Environs. Envir. Res. 42: 149-154.

S.A.Sattar and M.K.Ijaz. 1987. Spread of Viral infections by aerosols. CRC Critical Reviews in Environmental Control (Extensive review article with 285 references).

New Books By IAA Members

S. Dreborg. 1987. The Skin Prick Test. Methodological Studies and Clinical Applications. Linköping University Medical Dissertations No. 239, Linköping.

D.G.R.Findeisen. 1986. Asthma-und Heufieber-Ratgeber. G.Fischer Verlag, Stuttgart/New York.

D.G.R.Findeisen. 1987. Asthma bronchiale. 4 ed. G.Fischer Verlag, Jena.

Mary L. Jelks. 1987. Allergy Plants - That Cause Sneezing and Wheezing. World-Wide Printing, Tampa, FL (see Book Review section).

A.G.Palma-Carlos. 1987. Manual de Imuno-Alergologia, Lisbon.

Changes in Affiliation or Address

The Following Individuals can be reached at the addresses below.

F. Beaumont, Groot Ziekengasthuis, Nieuwstraat 34,5211 NL 's-Hertogenbosch, The Netherlands.

J. Emberlin, Geography Department, Polytechnic of North London, 383 Holloway Road, London N7 6PN

Allen.E. Gale, P.O. Box 401, Hindmarsh. South Australia 5007

S.M.Hasnain, Dept. of Biological and Medical Reserach, King Faisal Specialist Hospital and Research Center, P.O. Box 3354, Riyadh 11211, Kingdom of Saudi Arabia.

Mary L. Jelks, 1930 Clematis St. Sarasota, FL 343239.

A.M.Solomon, Biosphere Project Leader, International Institute for Applied Systems Analysis, A-2361 Laxenburg Austria.

E.H. Stephenson, Department of Veterinary Preventive Medicine, Virginia-Maryland Regional College of Veterinary Medicine, University of Maryland, College Park, MD 20742.

D.O. Wolfenbarger, 842 NW 3 Ave., Homestead, FL 33030-4304.

Other News

Mauritz G. Anderson received the Towson State University, College of Natural and Mathematical Sciences, Outstanding Faculty Award for 1987. Anderson also presented a one-day hands-on work shop requested by the Pure Food and Drugs, Rockville, Maryland on The Microscopy of Feed Components, Their Contaminants and Their Toxicants.

Allen E. Gale was appointed Hon. Principle Medical Officer - Asthma Foundation of South Australia. Gale also indicated that he and his wife are moving to a new home in Adelaide Hills. "It is zoned country living because it is in the water catchment for the reservoirs. The property has a delightful collection of 80 year old trees including a 'baby' American Redwood, some 100 feet tall. The location at Stirling has been likened to the rolling countryside in England and Shirley and I have decided to call our new house Withyham - named after happy memories of a village in Sussex, England. I have also moved my professional rooms from North Adelaide." (See address change above.)

J. Lacey writes that aerobiology at Rothamsted is under severe threat owing to stringency in government funding. Two aerobiologists have been given notice of redundancy and another given one year to complete work before switching to crop environment studies. This could leave only work environment studies to continue as long as contracts are extended or replaced.

A.G.Palma-Carlos received the Dagra prize for respiratory allergy for his work on *Parietaria* pollenosis.

The Association of Military Allergists, USA, is conducting an Aeroallergen survey.

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Remember to send in news items for the Newsletter

Aeropalynology Library

With reference to the traditional research of the Palynological Laboratory, Swedish Museum of Natural History, Stockholm, and the presence of a relatively large collection of aeropalynological literature (particularly reprints) the institution would welcome receiving further additions of reprints continuously from aeropalynologists all over the world. The title of the reprints and the names of the authors will be published in the IAA Newsletters to inform the readers of current aeropolynological literature.

Siwert Nilsson

The Environmental Impact of Pesticides

The Pesticide Impact Section (of the Overseas Development Natural Resources Institute) has compiled a bibliographic computer database of books and scientific articles about the environmental side-effects of pesticides (including herbicides and fungicides) in the tropics. This database, called ENVIRON, is designed to provide a rapid and comprehensive information service freely to scientists, farmers and agricultural administrators living in developing countries and working for international development organizations.

Included in ENVIRON is information previously widely scattered throughout the scientific literature. The use of such information can ensure that inefficient and environmentally damaging uses of pesticides are minimized. Topics covered in ENVIRON include: 1. pesticide toxicity to non-targets, 2. pesticide persistence and residues, 3. environmental fate of pesticides, 4. ecological impact of pesticides on non-target organisms (evidence of mortalities, population changes, and sublethal effects such animal behaviour).

ENVIRON can handle inquiries about the effect of pesticides on non-target organisms (including soils), after first specifying the pesticide (or pesticides), the target pest(s) or non-target organism(s), or a combination of these. The output consists of a list of references, each of which is followed by an indication of the contents of each paper and in some cases a relevant abstract. Depending on the request we also attempt to synthesize the information available to aid the inquirer. There are no plans to provide an on-line facility for external users at present. For information write to Dr. H.Q.P. Crick, Overseas Development Natural Resources Institute, College House, Wrights Lane, London W8 5SJ, England.

RESEARCH REPORTS

AERO-ALLERGOLOGICAL RESEARCH IN THREE CITIES OF SAUDI ARABIA

Abdulrahman Al-Frahy[1] Sayed Mohammed Hasnain[2] J.D. Wilson[1]

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[2]King Faisal Specialist Hospital and Research Center,
P.O. Box 3354, Riyadh 11211, Saudi Arabia

An aero-allergological research project sponsored by King Abdulaziz City for Science and Technology is being conducted in collaboration with King Faisal Specialist Hospital and Research Center and King Khalid University Hospital of King Saud University, Riyadh. Studies employing four Burkard volumetric spore traps, and gravity settling plates are being conducted in three different cities viz Riyadh, Jeddah and Dammam. Two traps are operating in the Riyadh region where humidity is very low - rarely exceeding 45%. However, thousands of gallons of water are being irrigated each day at various locations in the city. This situation has created an artificial environment with sufficient humidity for growth and sporulation of many fungal species. Jeddah and Dammam, unlike Riyadh, are port cities and likely to exhibit a somewhat different air spora, since, for example, humidity in Jeddah remains above 80%.

Allergic diseases especially bronchial asthma are common in the Kingdom. However, no estimate of the actual percent of the population suffering from bronchial asthma or allergic rhinitis is available. Therefore, a "prevalence study" is also being conducted amongst school children and adults. The primary thrust of the project, based on the aerobiological findings, is to prepare an "allergy diagnostic profile" to include various allergens present in the Kingdom.

Until recently, fungi were not considered worthy of skin testing. The investigations conducted during the past six months (from 1 Nov 1986 to 30 April 1987) have revealed a variety of fungal spores from different species including recognized aeroallergens. Spores identified

on trap slides include spores of the following genera of imperfect fungi: *Cladosporium, Alternaria, Ulocladium, Dreschlera, Aspergillus/Penicillium type, Arthrinium, Asperisporium, Torula, Helminthosporium, Phoma,* and *Pithomyces chartarum.* Ascospores identified included those from *Chaetomium, Pleospora, Leptosphaerulina, Sporomiella, Venturia,* and *Xylaria-Hypoxylon* type. Unidentified ascospores and conidia of powdery mildews were present also. Basidiomycete spores included *Ustilago* (Smuts), *Calvatia,* and colored basidiospores.

A number of house dust samples were also collected from the patients' homes and cultured for the presence of fungal allergens. *Rhizopus, Penicillium, Cladosporium, Aspergillus, Alternaria* and unidentified colonies and yeasts were identified from these samples.

A large number of plants have been introduced to the Kingdom in the recent years. Once the nature of soil and climate of Arabia was considered unfavorable for plant growth. Today, it is astonishing to see a variety of plant species flourishing. (There is a report that "roses" are being exported to Holland). Airborne pollen grains trapped on Burkard trap slide were contributed by grasses, weeds and trees. Identification of these pollen grains is underway.

Increased agricultural activities in the Kingdom are likely to add new types to the airspora, raising the possibilities of increased numbers of airborne allergens. Further aerobiological and immunological investigations are in progress.

RESEARCH REPORTS - Members are urged to submit brief research reports or summaries to the International Aerobiology Newsletter to inform the IAA membership of new or ongoing projects. The Newsletter cannot, however, print manuscripts which include actual data and/or the results of original research. Members are strongly encouraged to submit manuscripts resulting from their aerobiology research to GRANA.

AEROBIOLOGICAL INVESTIGATIONS IN NY-ALESUND, SVALBARD

Stein Johansen, Rapport Botanisk Institutt, University of Trondheim, Norway.

A Burkard spore trap was operating at the Norwegian Polar Institute in Ny-Alesund in Svalbard (78°55' N, 11°56' E) from April 25 to Aug 25, 1986. Very low concentrations of pollen and spores occurred compared with aerobiological studies in Mainland-Norway and other parts of Scandinavia. The flowering season was in July when air samples contained local pollen mainly from *Saxifraga* spp., *Salix* spp., and *Oxyria digyna*. These three contributed over 80% of the total pollen trapped.

Approximately nine percent of the total pollen trapped resulted from long distance transport. These included *Alnus, Betula, Juniperus,* and *Pinus* pollen. As in other studies of pollen dispersal in the Arctic, *Betula* and *Pinus* were the most common secondary pollen types. Back trajectories for Ny-Alesund for three episodes of long-distance dispersal compared with corresponding pollen concentrations at various aerobiological stations in Scandinavia, designate central and southern Finland to be the possible source areas for long-distance transport of *Pinus* and *Betula* during one of the episodes. No evidence was found of long distance pollen transport from North America.

The episodes of long-distance pollen transport were also characterized by increased levels of *Cladosporium* and other fungal spores. With diurnal concentrations occasionally being as high as 600 spores per cubic metre, fungal spores were the most numerous biological particles occurring in the material. *Cladosporium*, however, never exceeded 44 spores per cubic metre. Diatoms were also observed occasionally.

In matters of allergy, one may assert that the airspora of Ny-Alesund is almost free of allergenic pollen and spores.

CROSS-REACTIVITY AND COMPARATIVE ALLERGENIC POTENCY OF EIGHT ISOLATES OF ALTERNARIA TENUIS, CANDIDATES FOR INCLUSION IN A REFERENCE STANDARD.

H.M. Vijay, Health Protection Branch, Health and Welfare Canada, Ottawa, Ontario.

In 1981 the Allergen Standardization Subcommittee of the International Union of Immunological Societies undertook the production of several allergen extracts that would meet WHO specifications as International Reference Preparations. Since 1983 an international collaborative study has been carried out on *Alternaria* extracts. There appeared to be fairly good agreement among participating laboratories with respect to the relative antigenicity and allergenicity of the extracts. The major difficulties lay in the source materials. Some strains were identified as *Alternaria* sp. but not specifically *Alternaria tenuis*.

In order to achieve a true reference preparation of *Alternaria tenuis*, we have characterized eight strains of this species. In mouse IgE passive cutaneous anaphylaxis (PCA) tests, all extracts were of similar potency and had extensive allergenic cross-reactivity on challenge with homologous and heterologous antigen. In RAST inhibition assay, all samples had extensive allergenic cross-reactivity, but different potencies. Similar results were obtained with crossed-radioimmunoelectrophoresis. Immunoblots of SDS-PAGE gels using pooled sera from seven patients sensitive to *A. tenuis* showed different banding patterns with two strains.

These results indicate that five of our strains are suitable as reference preparations, all being highly potent and extensively cross-reactive.

BOOK REVIEWS

ALLERGY PLANTS - THAT CAUSE SNEEZING AND WHEEZING, Mary Jelks, MD. World-Wide Printing, P.O. Box 24339, Tampa, FL 33623, 65 pages, $8.95. (paper)

This book, a pictoral guide to the hay fever plants, is primarily intended for use by people suffering from pollen allergies. The author begins with brief descriptions of allergies and the immune responses that cause rhinitis. Pollen and pollen counting are also discussed. These topics are covered in a nontechnical format. The remainder of the book deals with the plants that produce the allergenic pollen including gymnosperms, woody dicots, monocots, and herbaceous dicots. The majority of serious hay fever plants are pictured in the book. It is informative with clear concise text supplementing high quality photographs. Most plants are photographed at the time of pollination, often with enlargements of male flowers or cones. There are some errors that relate to pollination times of various plants. For example the author indicates that "in most areas ragweed blooms for about four to six weeks at nearly the same period each year (mid-July to September)." In Oklahoma, and other areas in the South, ragweed actually just begins to pollinate at the end of August and continues through mid-October. These errors are few and do not detract from the overall quality of the book. The author also includes brief sections on plants causing rashes, other airborne allergens, and a grass pollen calendar. This well illustrated book will be very useful to all allergists as well as patients suffering from pollen allergies.

Estelle Levetin
The University of Tulsa

ANGIOSPERM POLLEN FLORA OF TROPIC AND SUBTROPIC CHINA. Hui Ru Kang (ed.). Science Publishers, Zhao Yang Men Nwai 137, Beijing, China. 1982. 453 pp and 219 plates. No price known.

This volume on pollen morphology may have escaped notice of most aerobiologists and palynologists; in fact, it was just presented to me by Dr. Zhang Jintan at the Basal Conference in August 1986, and I was unaware of its publication until that time.

For the nonChinese reader the 219 full-paged plates of pollen representing 133 angiosperm families will be of special value. These and the text are organized by family and genus in both Latin and

Chinese so that the photomicrographs are an important visual representation of the pollen flora which can be scanned for comparison with pollen found elsewhere. The entire text is in Chinese only. However, there is an index to families, genera, and species in Latin for both text and plates.

Although of limited use (only because of limited understanding of Chinese beyond the Orient), this volume nevertheless is an important pictorial reference for those interested in the diverse pollen morphology of the rich tropical flora of southern China.

Walter H. Lewis
Washington University

ATLAS OF MOULDS IN EUROPE CAUSING RESPIRATORY ALLERGY, Suzanne Gravesen and Wilken Jensen (Ed.), 1984. Ask Publishers, Denmark. 112 pages, hardback, $25 (US) for IAA members.

Ask Publishers wrote to indicate that this book, which was first published in 1984, is still available. A special price is available for IAA members. To order write: Ask Publishers, J.L. Heibergs VEJ 41, DK-8230 AABYHOJ, Denmark. Please specify name and address and number of copies. The book will be delivered by mail with an invoice enclosed.

Addresses for members who submitted items for this issue can be found in the IAA Directory - Newsletter #23 - January 1986.

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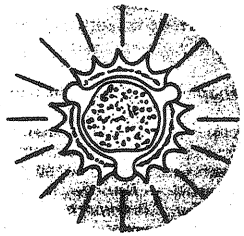
Vol. 51



Gundo E. Boehm
Basel, Switzerland
Ruth M. Leuschner
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Basel, Switzerland

Advances in Aerobiology

Proceedings of the 3rd International Conference on Aerobiology, August 6–9, 1986, Basel, Switzerland

1987. 440 pages, Hardcover,
sFr. 98.–/DM 118.–
ISBN 3-7643-1803-1

Compiled in this volume are selected lectures and summaries of posters taken from the 3rd International Conference on Aerobiology held in Basel (August 6–9, 1986). The material has been grouped according to subject matter, with the first section concerning airborne biological objects such as pollen, fungal spores, and algae. Different species and their occurrence are described; allergenic effects of these particles on patients are considered in connection with special weather conditions as, for example, temperature inversions. Various fungal spores are studied with respect not only to their allergenic traits, but also to their phytopathological importance. Some contributions discuss allergic symptoms caused by mites or insects. Other contributions are concerned with the atmospheric ocean: its currents and also air pollution.
Not only are noxious gases such as nitrous oxides and sulfur dioxide discussed, but also the role played by inanimate particles such as dust and soot (now measurable with special apparatus) on, for example, respiratory diseases. One of the most critical problems of our time – radioactivity – is dealt with in contributions on radon and on radioactive deposits found on adhesive strips of the pollen-collecting apparatus in Basel. Newer methods discussed at the Conference included the construction of a special pollen-collecting device which enables the individual allergy patient to collect pollen himself. Also reported is the incidence of certain allergenic deposits on filters of air-conditioning systems. The reader will draw from this book an impressive picture of the breadth and significance of aerobiological research in our environment.

Birkhäuser
Verlag
Basel · Boston

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