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Editorial note

The calendar for 2006 is full of interesting events for aerobiologists. The 8th International Congress on Aerobiology (8 ICA) will be held in Neuchâtel (Switzerland) from 21-25 August. This is a major opportunity for aerobiologists to meet and discuss the future development of Aerobiology, and Bernard Clot on behalf of the Organizing Committee, has invited us to take part. Switzerland will also be the venue for the Advanced Aerobiology Course (AA2006), which will run from 14-19 August in Sion. Additionally, aerobiologists interested in attending the 15th International APLE Symposium and the 11th National Congress of the Italian Aerobiology Association can find details of these events on pages 3 and 5.

A new contribution on Aerobiology in the World by Margrét Hallsdóttir outlines the major aims of aerobiologists in Iceland. A report from Switzerland marks the recent retirement of Ruth M. Leuschner from professional aerobiological activities, and her Swiss colleagues highlight aspects of her academic and scientific achievements.

This issue also reviews a book entitled "Air Quality: Pollen and Spores in Galicia". This useful volume, written in Spanish, focuses on aerobiological information for Galicia (NW Spain). Information on a CDROM entitled "Key to pollen identification" produced by the RNSA (National Network for Aerobiologic Monitoring) is included.

Also in this issue, a summary of the doctoral thesis on Cultural Heritage by Paola de Nuntis of the University of Urbino (Italy).

Last November, the Spanish Association of Aerobiology (AEA) presented its annual Research Award for the best doctoral thesis on Aerobiology.

The results of the 1st VPPS 2000 Photography Competition were published recently, and the winning photographs are printed in this issue.

Once again I would like to remember that IAA's Newsletter is available in electronic format at IAA website <http://www.isao.bo.cnr.it/aerobiolo/iaa/IAABULL.html> and the Galician Aerobiology Network website (<http://www.usc.es/aerobio>). IAA members interested in receiving a printed copy should request it from me by e-mail at vjato@uvigo.es.

I also want to express special thanks to everyone who has contributed to this issue.

Finally, I would like to wish all IAA members a very peaceful and happy 2006.

Victoria Jato
Newsletter Editor

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Invitation to 8th International Congress on Aerobiology Neuchâtel, 21-25 August 2006

Dear Colleagues,

On behalf of the International Association for Aerobiology and the organizing committee, I cordially invite you to participate in the 8th International Congress on Aerobiology which will be held in Neuchâtel, Switzerland, 21st-25th August 2006.

The International Association for Aerobiology holds International Congresses every four years since 1978. Such events are a forum for interdisciplinary discussion among specialists from many sciences related to the aerobiological pathway, from sources to impacts - emission, dispersion, transport, deposition - of airborne particles from biological origin. The 2006 edition is jointly organized by the Swiss Society for Aerobiology, the Federal Office for Meteorology and Climatology MeteoSwiss, and the University of Neuchâtel.

Aerobiology has deserved increasing interest in the last decades. Switzerland has been for years very dynamic in this science. Added to the charm of the city, this makes of Neuchâtel an ideal place for the 8th International Congress on Aerobiology.

Plenary sessions and specialized symposia will contribute to trace the scientific progress of our discipline in the past four years. During workshops, participants will be able to directly interact and share ideas on practical issues as well as outline future challenges. We will strongly encourage interpersonal scientific exchanges by supporting attractive poster sessions and awards.

A social program for both participants and accompanying persons will provide plenty of opportunities to savour the flair of the city of Neuchâtel and its surroundings.

Therefore, join your colleagues from around the world and learn about the latest advances in aerobiology; we are looking forward to welcoming you all in Neuchâtel in 2006.

Bernard Clot

RUTH MARIA LEUSCHNER: A PIONEERING SPIRIT

By B. Clot, A. Bircher, R. Gebrig, Ch. Pichler, Th. Ruffli



Nowadays, it seems obvious to click on the Internet and to get pollen data from many areas. That was not the case 37 years ago, when pollen could fly about freely and unnoticed in Switzerland. The first impulse that led to a National pollen monitoring network was given in 1969 by Ruth M. Leuschner, a lady with a passion for pollen grains.

Ruth Leuschner grew up in Basel, the youngest of a family of three. At the time she finished high-school, during the Second World War, few girls had the opportunity to study at University. She trained to become a teacher of needlework and of typing and taught these subjects several years, but never forgot her desire to study botany. In 1957, with the encouragement of Prof. Gundo Boehm, a lifelong friend, she started to study botany, zoology and chemistry. From 1965, she taught biology and chemistry at high-school level. Her diploma research was dedicated to the study of apertures of the

alder pollen grains.

The project to work in aerobiology came through a meeting with Erika Stix in Germany. Ruth Leuschner was excited by the idea to conduct research that would take into account related areas, in this case the study of allergies. It was hard to start a completely novel project, but she finally got the support of a dermatologist, Prof. Rudolf Schuppli, and in 1969, the first Hirst-type pollen trap for Switzerland was installed in Basel. The data collected allowed her to publish her doctoral thesis in 1974 with the title "Identification of airborne pollen in Basel in the years 1969 and 1970". Eventful year 1974! In addition to the publication of her dissertation, Ruth Leuschner contributed

to the "Atlas of European allergenic pollens" (Charpin J, Surinych R, Frankland AW. Ed. Sandoz, Paris, 1974) and was one of the co-founders of the International Association for Aerobiology (IAA), on September 11th, in The Hague, during the 1st International Conference of Ecology.

She was devoted to the IAA, acting as treasurer from 1974 to 1990, as vice-president from 1990 to 1994 and as a member of the council up to 2002. She was elected honorary member in 1990.

During these years, Ruth Leuschner conducted several research projects, often in collaboration with Prof. G. Boehm, addressing various important questions and opening several new fields of investigation in aerobiology. She compared in particular airborne pollen and allergic symptoms, airborne pollen and meteorological parameters, pollen at different altitudes and in different cities. She was interested in outdoor and indoor measurement techniques, and devised means of measuring individual exposure. She analysed airborne spores after training with Ursula Allitt and studied the inorganic particles trapped by the pollen sampler. She was the first one to warn against a possible invasion of ragweed in Switzerland. She succeeded in promoting a network of measurement stations in Switzerland (Davos, Geneva, Zurich ...) and supported the development of aerobiology in many countries. She was the teacher of many subsequent aerobiologists. She organized a regular pollen bulletin for allergologists and opened the way to distribute pollen information for the public through the mass media.

In 1984, she retired from teaching biology and chemistry, and could at least work full time for aerobiology. One year earlier, in 1983, she was co-founder of the Swiss Working Group for Aerobiology, that became the Swiss Society for Aerobiology in 1994. In 1986, at the peak of her career, she organised the 3rd International Conference on Aerobiology in Basel (6-9 August). The proceedings of this Conference were published in a book entitled "Advances in Aerobiology" (Boehm G, Leuschner RM. Ed. Birkhäuser, Basel, 1987). She was the author of more than 110 scientific contributions, and thanks to her engagement, Basel is one of the oldest continuous aerobiological data series. Above all, she is a personality with outstanding qualities: idealism, conviction, perseverance, an ability to work hard, a sense of humour, a talent for friendship. Until the end of 2004, she continued with pollen analysing and counting in Basel. Ruth Leuschner definitely (?) retired from aerobiological activities on 10 December 2004. We wish her in particular good health in the coming years and remain looking forward to welcoming her next year at the congress in Neuchâtel!



Reference

Jenkins J. Ruth M. Leuschner: a biographical sketch. *Aerobiologia* 12:141-147 (1996).

Aerobiology in the middle of the North Atlantic Ocean

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Iceland, often named the Land of Ice and Fire, is located on the Mid-Atlantic Ocean Ridge north of 64.5°N and west of 15°W. It is 103,000 km² in size, with a population of some 293,000 inhabitants. The climate is cold-temperate oceanic, characterised by the influence of a westerly branch of the North Atlantic Current (the Gulf Stream) with relatively mild winters but cool summers (the July mean temperature for Reykjavik is 10.6°C, 1961-1990). The flora consists of some 480 species of vascular plants, 600 mosses, 710 lichens and at least 2000 fungi.

The first pilot studies in aerobiology in Iceland were carried out with the gravimetric method in Akureyri, northern Iceland, by the geneticist Dr. Sturla Fridriksson in the early 70's. Later on a Hirst sampler was purchased and set up at the agronomist station Korpa north of Reykjavik, and run for a few summers. Both studies were conducted as research in the field of agriculture. The late Dr. Siwert Nilsson's initiative and encouragement led to a renewed episode in aerobiological research in Iceland, when in 1988 a proposal by the present author to Rannís, the Icelandic Centre of Research, was accepted and a Burkard seven-day recording volumetric spore trap was purchased and set up at the Icelandic Meteorological Office in Reykjavik. Reykjavik is the capital city of Iceland, located in the south-western part of the island, with some 180,000 inhabitants including the suburbs. Since 1988 the Burkard trap has been run every year from the start of May to the end of September, except for the last three years when the starting time was moved to mid-April because of warmer weather. In 1998 a new aerobiology station was established in Akureyri, a town of 16,000 inhabitants in northern Iceland.

At the 4th International Conference on Aerobiology in Stockholm, Sweden, in August 1990 contact was established with the EAN pollen data bank in Vienna (Dr. Siegfried Jäger) and since then pollen counts for *Betula* and Poaceae, the two main aeroallergens in Iceland, have been sent to Vienna to be stored in the pollen database there. In addition the EPI pages are updated regularly during the main pollen season in Iceland.

This year the EAN Poll data input software was set up and since then all pollen

and spore types identified in Iceland have been sent to the database weekly in an easy and secure way.

In the Icelandic samples some 40 palynomorphs have been identified. Most of those palynomorphs occur sporadically and in small quantity, i.e. less than 2% of the total annual pollen catch. Poaceae pollen grains are the most abundant pollen type, and in most years *Betula* type (i.e. mainly *Betula pubescens* but also *B. nana* and hybrids of these two species to a lesser extent) is the second most abundant.

A weekly pollen report on grass, birch and sorrel pollen is published by the Icelandic National Broadcasting Service as RUV's teletext and on the web page <http://www.mbl.is/mm/frettir/vedur/pollen.html> as well as in the nationally-distributed newspaper *Morgunblaðið*. A web page has also been created at the Icelandic Institute of Natural History (<http://www.ni.is/>) which is updated as soon as new pollen counts are available. This is at least weekly as from the station at Akureyri the drum is sent to Reykjavik for analysis and counting once a week, while in Reykjavik the pollen trap is emptied every day during the high season for grass pollen, i.e. from early July to late August. Thus the latter web page is updated every weekday in July and August.

A new pollen calendar showing both grass and birch pollen has been printed every 3rd year and published by the pharmaceuticals firm Janssen-Cilag and made available to the public through the pharmacies. One scientific paper has been written concentrating on birch pollen variations, the prediction of pollen years and the starting date of the season. A presentation paper on the characteristics of the grass pollen season in Iceland is in preparation.

Up to now the main effort has been to collect data on pollen in the air of Iceland's two most densely populated areas, Reykjavik and Akureyri, serving sufferers of allergic rhinitis and their medical doctors. In the future we want to be able to make good predictions and forecasts that can only become a reality through co-operation between aerobiologists and meteorologists at the Icelandic Meteorological Office and the University of Iceland, as the release and transport of pollen is very dependent on the ever-changing weather conditions in Iceland.

FORTHCOMING EVENTS



8 ICA 2006

8th International Congress on Aerobiology
21-25 August 2006, Neuchâtel, Switzerland

"Aerobiology: towards a comprehensive vision"

Themes

Emission: sources, quantification, phenology, vegetation changes, ...

Dispersion: models, forecasts, scaling, ...

Impacts: health, allergy, agriculture, genetics, air pollution, biosecurity, cultural heritage, effects of bioparticles on meteorology, forensics, dispersal of GMO pollen, climate change and trends, ...

Methods: standardization and quality control, new measuring techniques.

Future challenges in aerobiology, history of aerobiology.

Key-words: aeromicrobiology, aeropalynology, aeromycology, airborne movements of insects, indoor air quality.

Registration and information: www.aerobiology.ch

Contact: 8ica@meteoswiss.ch

Neuchâtel: www.neuchatel.ch

Deadline for abstracts: February 3, 2006

Deadline for early registration: April 30, 2006

www.aerobiology.ch

Organization

www.meteoswiss.ch

www.unine.ch



MeteoSwiss



XI Italian Association for Aerobiology's National Congress

Parma-Italy, 5-8 April 2006

<http://www.isao.bo.cnr.it/~aerobio/aia/>



2006 European Palaeobotanical-Palynological Conference

7-12 September 2006

Prague, Czech Republic

More information at <http://www.natur.cuni.cz/eppc2006>

e-mail: eppc2006@natur.cuni.cz

Advanced Aerobiology Course (AA2006)

AA 2006 is supported by :  **AEROBIOLOGY**
SCHWEIZERISCHE GESELLSCHAFT
SOCIETÀ SVIZZERA
SOCIETÀ SVIZZERA

Pollen dispersal in an alpine environment

14 to 19 August 2006 in Sion (Switzerland)

Pollen dispersal is a fundamental concept of aerobiology. However it is more often referred to than studied, because of the complexity of the phenomenon. A small narrow alpine valley has several advantages to analysing the aerial movement of pollen. Because the altitude gradient strongly influences plant distribution and phenology, the pollen sources in such a valley can be easily located. Quantification of the amount of pollen in areas where a specific plant is not yet flowering provides information of the dispersal process. During the 2005 vegetation period, six Hirst type pollen traps were installed in Val de Nendaz, a small tributary valley in Valais. Weather variables were also measured. During the AA 2006 course, these data will be used for demonstrating and modelling the pollen dispersion process. As their course project, the students will try to quantitatively model the pollen distribution in the valley.

The goals of this course are: to learn more about weather and wind systems in the Alps, to learn the basics of dispersion modelling and GIS mapping, to analyse pollen and weather data and to use a dispersion model for simulating the pollen dispersion in a narrow alpine valley.

Program

Monday 14 August
Arrival in the afternoon
17.00 Welcome
Lecture: Vegetation in alpine environment

Tuesday 15 August
Lectures: pollen production, deposition, weather of the mountains
Preprocessing of the weather data

Wednesday 16 August
Lectures: dispersion, GIS mapping of pollen sources
Excursion and vegetation mapping in Val de Nendaz

Thursday 17 August
Lecture: dispersion models
Project: analysing data and modelling pollen dispersion in Val de Nendaz

Friday 18 August
Lecture: Footprint models
Project: modelling pollen dispersion in Val de Nendaz

Saturday 19 August
Presentation of results
Noon: end of the course

Lectures of four case studies, which show the use of dispersion models in Aerobiology, will be presented during the course.

Location

Near Sion (Valais)

Transportation

Sion is easily reached by train. Please organise your journey to Sion by yourself. For the train timetable see: <http://www.sbb.ch/en/index.htm>. The journey from Zurich Airport takes about 3 hours 40 and from Geneva Airport about 2 hours. Local transportation will be organised (please inform us of your arrival time at the main train station of Sion)

Cost

Is estimated at about CHF 1000 (630-700 Euros) (double rooms), all meals included

Participants

The course attendance is restricted to 20-24 students

Information and registration

pollen@meteoswiss.ch

www.aerobiology.ch

Valais

Sion is the capital town of the Canton Valais and is situated in the heart of the Alps. The Valais has two parts, the French speaking part in the west and the German speaking part in the east. The Valais is famous for the beauty of its alpine landscape with many mountains higher than 4000 m, by the production of vine and the cheese speciality, the Raclette. The climate is mild, the number of sunny days per year is well above the Swiss average.



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Mathias Rotach, MeteoSwiss, Switzerland
Eva Schuepbach, University of Bern, Switzerland
Jean-Paul Theurillat, CAP, Champex, Switzerland



AA 2006

Pre - 8th ICA Congress

Advanced Aerobiology Course
(AA 2006)

Pollen dispersal in an alpine environment

14 to 19 August 2006 in Sion (Switzerland)



XV International APLE Symposium of Palynology, September, 2006, Málaga, Spain

Dear Aerobiologist: As you probably know, our Department of Plant Biology, University of Málaga, will organise the XV International APLE Symposium of Palynology. We are glad to inform you that we are preparing a congress in which all kind of contributions related to Palynology will be welcome. We hope this event is a meeting point and discussion forum for all the palynologist that are working in any section this Symposium include: Pollen and spore morphology, Aerobiology, Palaeopalynology, Melisopalynology and pollen biology.

We are making an effort in order the participant can enjoy a true holidays at the same time they attend the scientific activities. Benalmádena is situated in the very centre of the "Costa del Sol" (Southern Spain), one of the main tourist resorts in Europe, preferred by millions of tourist that visit us every year. September is still summer time what will allow you to enjoy sun and beaches together with all kind of activities in the open air, offered by the numerous facilities that you will find in the locality, even if you are accompanied by children.

The hotel Alay, which we have chosen for the Symposium be held is situated in the very edge of the sea, by Puerto Marina, which is consider to be the most beautiful yacht port in the World. In case of we had a certain number of accompanying people we will organise a series of complementary activities such as trips to Gibraltar, Granada and the close village of Mijas, famous by its typical white houses, its "burro-taxis" and its handicraft shops. You also will have the opportunity of visiting the Picasso Museum, in Málaga.

Please, fill in the pre-registration form before January the 15th and we will keep you informed.

Kind regards. We wait for you



M. Mar Trigo
Organising committee



AEA Research Award

During its annual meeting, held in Palma de Mallorca in November 2005, the Spanish Association of Aerobiology (AEA) presented its annual Research Award for the best doctoral thesis on Aerobiology.

The winner of this year's award was Dr. Julia Morales from the University of Seville. The Award was presented by the committee, comprising Dr. Consuelo Diaz de la Guardia (President), Dr. Francisca Alba (Secretary) and Drs. Joan Roure, Montserrat Gutierrez and Rafael Tormo.

We would like to offer our congratulations to Dr. Morales.

Vic toria Jato



1st photographic competition VPPS 2000

By Carlo and Elena Lanzoni

Our competition has resulted in a very high number of pictures to evaluate, our selection has been difficult, also because we received many very nice and interesting pictures.

We will do our best to show the images of the winners on our web site in the future and we think we will also be able to show most of the pictures during the next AIA National Congress, taking place in Parma, ITALY; from the 5th to the 8th April 2006, and most of all during the 8th International Congress taking place in Neu chatel from the 21st to the 25th of August 2006.

Given the good success we obtained with this experience, we think we will propose something similar in the future, and we will advertise it in our web pages.

We compliment all the participants to this competition for the nice images they sent to us, and in particular we congratulate with the five winners.

We take this occasion to send to all of you our best wishes for Christmas and the New Year, hoping to meet you very soon around the world.

And now....the winners are.....

- F. Javier Rodriguez-Rajo, University of Vigo (SPAIN) with the picture "Snowy VPPS"
- Paola De Nuntius, CNR-ISAC Bologna (ITALY) with the picture "VPPS at 2165 mt."
- Eric Boero, CEMBREU, Briancon (FRANCE) with the picture "Christmas Greetings form VPPS"
- Giovanni Tringali, IRMA Catania (ITALY) with the picture "The sampler and the volcano"
- Alessandra Pasquini, CRA-UCEA Roma (ITALY), with the picture "The holy sampler!?"



OURENSE - SPAGNA concorso 2005



BRIANCON - FRANCIA concorso 2005

Eric Boero - Torino Anno Nuovo!



MONTE CIMONE, Bologna - ITALIA concorso 2005



ROMA - ITALIA concorso 2005



CATANIA - ITALIA concorso 2005



DOCTORAL THESIS

Preventive conservation of cultural heritage: the characterization of the Museum environment by aerobiological point of view

On February the 10th 2005, at the University of Environmental Sciences of Urbino (Italy), Paola De Nuntiis successfully discussed her PhD Thesis entitled "Preventive conservation of cultural heritages: an aerobiological characterization of the Museum environment." The PhD Thesis was prepared under the supervision of Prof. Paolo Mandrioli (Italian Research Council CNR-ISAC) and Prof. Umberto Giostra (University of Urbino); it relates a three-years research (2001-2004) that has been completely funded by a MIUR (Ministry of Education, University and Research) educational grant. The research was also part of the MUSA project and involved both ISAC-CNR and the Emilia Romagna Region (Italy).

Unfortunately, Museum objects are not "naturally" preserved, but tend to deteriorate. For this reason, it's very important to control the quality of the air "surrounding" artworks displayed in a Museum, basically by monitoring physical, chemical and biological air parameters, using target campaigns and microclimatic instrumentation. Moreover, recent Italian laws defined quality standards and targets that Museums, Libraries and Historical Archives will have to achieve in the nearest future. The MUSA project was born because of the necessity to preserve exhibits in Museums, Art Galleries, Libraries, Churches and underground archaeological sites at their very best, and, within this project, an Internet and wireless-based technology network has been created to monitor indoor environments and send data remotely.

Paola De Nuntiis PhD research focused on three sites in Emilia Romagna (Collezioni Comunali d'Arte, Bologna; Museo d'Arte della Città, Ravenna; Casa Marino Moretti, Cesenatico). The measured parameters are those fixed by the Italian Ministerial Decree: physical parameters (i.e. Temperature and Relative Humidity) and biological parameters (i.e. Bacterial, Fungal and Total Microbial Load). Aerobiological measures were carried out with the Andersen sampler (6 stages), in different seasons and in rooms showing risky situations. The aerobiological data are expressed as Colony Forming Units per cubic meter of air (CFU / m³).

The main goal of this research was to verify the resistance of different materials under variable environmental conditions, and to study the relationships between materials and biological/physical parameters, to better define conditions in which artworks, according to their constituent materials, have to be maintained to achieve optimal conservation. Another useful aspect of this research is to verify the minimum number of samples to obtain significant conservation data, thus lowering sampling costs. Moreover a laboratory simulation of different environmental conditions was performed to produce fungal growth on different materials (wood, paper, plaster), in order to evaluate times of mold growth. For this simulation, spores of molds that are commonly collected during aerobiological samplings were used. Data have been consequently recorded to produce bio-risk map.

Paola de Nuntiis

NEW BOOK



A new book by the Galician Aerobiological Investigation Network team, coordinated by M^a Jesús Aira, Victoria Jato and Isabel Iglesias, provides aerobiological information for Galicia (NW Spain). The book, which is in Spanish, was published by Xunta de Galicia. The introduction offers a brief overview of the history of palynology and environmental mycology, while key methodological aspects are covered in a chapter on aerobiological methodology. The book provides a simple description of pollen types, grouped according to morphological criteria, together with a morphological description of the major spores (Myxomycota, Oomycota, Zygomycota, Ascomycota, Basidiomycota and Ascomycota anamorphs) identified in aerobiological studies in Galicia. Information is also available on fruit-bodies on the most appropriate culture media for achieving typical growth and sporulation, and on colony characterization required for correct identification. All aerobiological data in the database for eight areas of Galicia, collecting over the last twelve years, are used as indicators of the biological quality of the air in Galicia. This information is clearly summarized in graphics, tables and maps. The book contains over 300 photographs.

Victoria Jato

CDROM POLLEN IDENTIFICATION KEY

This year, the RNSA (National Network of Aerobiologic Monitoring), France, set up manufacture a CDROM "Key of identification of the pollen".

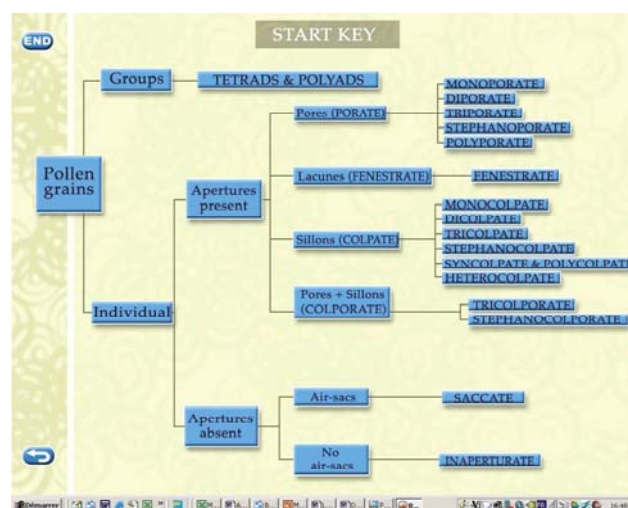
This CD was realised by Mr GérardSULMONT, Mrs Julie COLLET, Mrs Nadine DUPUY, Mr Michel THIBAUDON. We thank them and also Beverly ADAMS-GROOM for the English translation.

You can buy this CD by mail send to RNSA- Chemin des Gardes BP 8 69610 SAINT GENIS L'ARGENTIERE France), please send a bank check for payment."

The unit price is 75 Euros + VAT, to order it send to us a mail at rnsa@rnsa.fr

Annie PASSELEGUE

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Aerobiologia



the language of science

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The journal is of interest to aerobiologists and related scientists and professionals working in fields such as medicine, public health, industrial and environmental hygiene, biological sciences, agriculture, atmospheric physics, botany, environmental science and cultural heritage.

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