A PIONNER FRUIT FLY WORKER, DR. ERNST BOLLER, IS RETIRING

Dr. Ernst Boller was a pioneer in fruit fly work and played a key role in the creation of the global fruit fly community.

He studied at the Faculty of Agronomy, Swiss Federal Institute of Technology, Zürich from 1958-1962. He did his PhD research at the Swiss Federal Research Station for Arboriculture, Viticulture and Horticulture at Wädenswil under the supervision of Prof. P. Bovey from 1962-1966. During this period, he was appointed as junior entomologist and PhD. student, and was responsible for fruit fly research and small fruit entomology. After obtaining his PhD degree at the Swiss Federal Institute of Technology (Entomology) (ETHZ), he worked from 1966-1968 as Post-doctoral fellow of the Canadian Research Council and worked at the CDA Research Institute for Biological Control at Belleville, Ontario under B.S. Beirne, Prof. M. Mackauer, and Dr H. House and CDA Research Stations at Vancouver, BC and Summerland, BC under Dr J. Proverbs.

In 1968 he returned to the Swiss Federal Research Station for Arboriculture, Viticulture and Horticulture, Wädenswil, where he worked as senior entomologist on fruit fly research and grape entomology. From 1985-1999 he was project leader for the interdisciplinary program "Integrated Production in Viticulture". From 1989-1998 he was president of the coordinating committee of the Swiss Federal Office of Agriculture for the preparation of direct payments for sustainable agriculture. He was appointed Head of the Department of Zoology and Weed Science, Swiss Federal Research Station for Arboriculture, Viticulture and Horticulture, Wädenswil in 1991. Deputy Director in 1994, and Head Service Center and Strategic Planning in 1999. He retired from Federal Government services and ETH Zürich in 2001, although he continued actively involved in many activities, including leading the IOBC “Commission on IP Guidelines and Endorsement” until 2006. He has now announced his definitely retirement in March 2009.

Dr. Boller published more than 200 scientific papers and book chapters. During his appointment in Wädenswil, Dr. Boller advanced towards Full Professorship obtaining the following two additional degrees at the ETH in Zürich: PD (Private Lecturer with venia legendi); and Habilitation at ETHZ (Faculty of Agronomy, Institute of Phytomedicine, Prof. V. Delucchi). From 1982 to 2001 he taught an interdisciplinary course “Case histories in plant protection” at ETHZ. From 1974 to 1994 he was giving courses on "special topics in plant protection and integrated production in viticulture" at the Agricultural College for Arboriculture, Viticulture and Horticulture in Wädenswil. From 1996 to 2001 he was guest lecturer at the University of Milano where he taught Integrated Plant Protection and Production. In addition, he was a participant in several FAO/IAEA expert panels on fruit flies and held several research agreements with that agency. He was visiting FAO expert in Greece for Olive fly projects on Crete.

In the 1970’s, he introduced the concept of “QUALITY CONTROL” into mass-rearing facilities for the application of the Sterile Insect Technique. As a result of an IOBC/OILB international research project, he co-edited with Derrel Chambers the book: “QUALITY CONTROL: An idea book for fruit fly workers” that still today is an important source of ideas and an obligated reference on the subject.

He and his friend Ron Prokopy were recognized as world authorities on Rhagoletis fruit flies, and in the 1980’s, in collaboration with Ron Prokopy, he initiated the research work on host marking pheromones. Again; he was able to promote worldwide collaboration and to conduct an international research project.

Within the IOBC/OILB, Dr. Boller led the way to the establishment of two important working groups, one on “Quality control of mass reared arthropods” (1980) and another one on “Fruit flies of economic importance” (1978). The later was one of the foundations of our international community of fruit fly workers. In 1969 he initiated the FRUIT FLY NEWS that soon became the main means of communication among fruit fly workers around the world until 1992. In 2005, Dr. Boller received an honorary membership of the IOBC West Palaearctic Regional Section.

We highly appreciate Dr. Boller’s many contributions, mentorship of many fruit fly workers (for example Prof. Byron Katsoyannos) and friendship, and wish him all the best in his retirement.

Pablo Liedo
Automatic sex detection of individuals of *Ceratitis capitata* by means of computer vision in a biofactory

An automatic system is proposed and tested to inspect individual specimens of *C. capitata* using machine vision. It includes a backlighting system and image processing algorithms for determining the sex of live flies in five high-resolution images of each insect. The system is capable of identifying the sex of the flies by means of a program that analyses the contour of the abdomen, using fast Fourier transform features, to detect the presence of the ovipositor. Moreover, it can find the characteristic spatulate setae of males. Simulation tests with 1000 insects (5000 images) had 100% success in identifying male flies, with an error rate of 0.6% for female flies. This work establishes the basis for building a machine for the automatic detection and removal of recombinant individuals in the selection of progenitors for biofactories, which would have huge benefits for SIT around the globe.

More
NEWS

NEWSLETTER of the FLORIDA ENTOMOLOGICAL SOCIETY

The March 2009 Newsletter has been posted at http://flaentsoc.org, with information about the upcoming Annual Meeting, July 26–29, at Sanibel Harbour.

Richard Mankin
Florida Entomological Society Mail List [FES-L@LISTS.UFL.EDU]

Scientist Much Sought After for his Knowledge of Flies

Dr. Maxwell Billah, the young African scientist who discovered the fruit fly Bactrocera invadens, considered a devastating quarantine pest due to the huge losses of fruit trees in Africa, was recently recognized for his contribution to taxonomy.

Read more at ICIPE NEWS AND EVENT

Max can be contacted at:
Maxwell Kelvin BILLAH, PhD
(BioControl, Taxonomy & Systematics)
Lecturer & Research Scientist,
Dept. of Zoology, University of Ghana, Box LG. 67, Legon-Accra, GHANA
Cell: +233-245-887929; : +233-264-956565
E-mail: mxbillah@ug.edu.gh, mxbillah@gmail.com,
URL www.ug.edu.gh

First plant quarantine interception in Europe of Bactrocera minax, and a new host record

Bactrocera minax (Chinese citrus fruit fly), larvae were detected in Citrus macroptera fruit of Asian origin during a phytosanitary inspection at Heathrow Airport, London, in November 2008. This new host record is the first plant quarantine interception of B. minax by a European country (Professor Dick Drew, Dr Ian White and Marc De Meyer, pers. comm.). Not only has it previously been listed in the European Plant Protection Organisation (EPPO) non-compliance reports, but neither has it been intercepted in the North American Plant Protection Organization (NAPPO) region, which includes Mexico, USA and Canada (Walther Enkerlin, pers. comm.). As a non-European fruit fly, this species is quarantine listed within the European Union (European Plant Health Directive 2000/29/EC; Annex designation I/A1).

The Plant Health and Seeds Inspectorate of England and Wales, who made the interception, were unable to determine with certainty the exact origin of the fruit. It was imported directly from India, but it is strongly suspected that they had in fact come from Bangladesh.
AUSTRALIAN NEWSLETTER ON FRUIT FLY STERILE INSECT TECHNIQUE aim is to allow Australian fruit fly workers and also the rest of the world access to current research, meetings and SIT production and release information. Australian SIT Network newsletter is released biannually (December and April) and you are invited to send your contribution to Vanessa Cockington. The May 2009 issue includes local news and a couple of items on the application of the SIT for fruit flies. Previous issues can be found at Australian SIT Network site.

Vanessa Cockington
Research Officer (Fruit Fly Ecology)
South Australian Research and Development Institute.
SARDI Entomology, Urrbrae SA 5064
Cockington.Vanessa@sa.gov.au

There Is No Magic Fruit Fly Trap!

Field–cage experiments were performed to determine the effectiveness of MultiLure traps (Better WorldMFGInc., Fresno, CA) baited with NuLure (Miller Chemical and Fertilizer Corp., Hanover, PA) or BioLure (Suterra LLC, Inc., Bend, OR) in capturing individually marked Mexican fruit fly, Anastrepha ludens (Loew), and West Indian fruit fly, Anastrepha obliqua (Macquart) (Diptera: Tephritidae), of both sexes. Experimental treatments involved wild and laboratory–reared flies of varying ages (2–4 and 15–18 d) and dietary histories (sugar only, open fruit, open fruit plus chicken feces, and hydrolyzed protein mixed with sugar). More.


A biological trap for all fly species!

Bakri
NEWS

Chemical Alternatives to Malathion for Controlling Ceratitis capitata

Mediterranean fruit fly control in Spain has been based on organophosphate sprays, especially Malathion, mixed with protein baits. However, this insecticide has recently been excluded from annex 1 of the Directive 91/414 CEE, which lists authorized active ingredients for pest control in the European Union. This article reports on the efficacy of four alternative baited insecticides on Mediterranean fruit fly and their side effects on three natural enemies. More


Molecular phylogeny of the family Tephritidae

The phylogeny of the family Tephritidae (Diptera: Tephritidae) was reconstructed from mitochondrial 12S, 16S, and COII gene fragments using 87 species, including 79 tephritid and 8 outgroup species. Minimum evolution and Bayesian trees suggested the following phylogenetic relationships: (1) A sister group relationship between ortalotrypeta and Tachinisca and their basal phylogenetic position within Tephritidae; (2) a sister group relationship between the tribe Acanthonevrini and Phytalmiini; (3) monophyly of plioreocepta Taomyia and an undescribed new genus, and their sister group relationship with the subfamily Tephritinae; (4) a possible sister group relationship of Cephalophysa and Adramini; and (5) reconfirmation of monophyly for Trypetini, Carpomyini, Tephritinae, and Dacinae. The combination of 12S, 16S, and COII data enabled resolution of phylogenetic relationships among the higher taxa of Tephritidae. More


Visit us at www.tephritid.org

Tephritid Workers Database
With more than 900 contacts
The Solanum fruit fly, *Bactrocera latifrons*, in Africa: its origin, distribution, host plant specificity and interspecific competition in Tanzania

Chief Scientific Investigator: Marc De Meyer  
Royal Museum for Central Africa, Leuvensesteenweg 13, B3080 Tervuren, Belgium

Background and Scope of project

The Solanum fruit fly *Bactrocera latifrons* (Hendel) was detected for the first time in Tanzania in 2006. It is an invasive fruit fly pest of Asian origin that was recently introduced to the African continent. Given its pest status, it is of major concern to African horticultural activities. Assistance was sought from FAO/IAEA to obtain preliminary data on its occurrence, host range and impact in Tanzania. Also, dissemination of information on this, and related pests was deemed necessary in order to inform the African agricultural community on the presence of this new pest species. Therefore the following objectives were planned and activities carried out under an IAEA research contract:

A) Develop a web page to disseminate the information on *B. latifrons* as it becomes available  
B) Study the distribution, wild and cultivated host range, infestation rates, interaction with native fruit flies, and seasonality  
C) Apply molecular techniques to help establish the origin of the invasion in order to reconstruct the introduction pathway

More ...

Source:  
Rui Cardoso-Pereira

Visit us at [www.tephritid.org](http://www.tephritid.org)
Wasps to the rescue! Battling the fruit fly menace for Australian fruit growers

Australia’s $7 billion a year horticultural industry is threatened by the Queensland fruit fly, *(Bactrocera tryoni)*. In addition to Qfly’s direct damage to fruit crop, its presence leads to significant restrictions on the access of Australian fruit and vegetables to domestic and international markets. Our horticultural industries are also threatened by the ongoing risk of invasion by exotic species from neighbouring countries.

Growers and consumers alike are increasingly aware of the hazards associated with heavy reliance on pesticides to control such pests. In the case of Qfly, two of the main chemicals currently used, dimethoate and fenthion have recently undergone a review, placing their future availability in doubt. More than ever before, Australia needs effective, non-chemical methods for the management of Qfly and invading exotic species. Not only would this enhance the safety and sustainability of fruit fly control, it could allow an expansion of organic fruit production. But is this just a pipe dream? Not according to a major new project that has won backing from Riverina Citrus, Horticulture Australia Ltd and the Cooperative Research Centre for National Plant Biosecurity. This NSW Department of Primary Industries collaboration with Charles Sturt University (EH Graham Centre) aims to develop an approach that involves biological control using parasitic wasps.

An encouraging aspect of this project is that Australian wasp species are already used successfully overseas. When released in large numbers as part of an integrated pest management (IPM) program, these Aussie wasps have given improved management of fruit flies in several regions of the world, including Hawaii. The hard-nosed, commercial value of this biologically-based approach is demonstrated by the existence of huge ‘wasp factories’ in Brazil, Peru, Guatemala, Hawaii and Mexico. The latter produced 50 million parasitoid wasps per week in 2007 alone! One reason for the popularity of these parasitic wasps in overseas fruit fly control is that once released, they are self-dispersing, so give wide coverage including areas where other techniques, such as spraying, cannot readily be applied. That advantage extends to populated areas where fruit flies can breed on backyard trees but where spraying is unpopular.

In this new project, PhD student Jennifer Spinner has been surveying widely in eastern Australia to determine which wasp species tend to cause most mortality to Qfly. The same wasps will also be reared from non-pest fly species to investigate whether the hosts are useful for maintaining wasp populations when Qfly is scarce. Later, project members including Dr Olivia Kvedaras of NSW DPI, will tour wasp rearing facilities in the USA, Mexico & Guatemala to ensure world best-practice is followed in the pilot plant to be set up in NSW. Once that starts to produce wasps of the selected species, optimal releases strategies will be investigated. In Australia, this technique is likely to provide more economic and effective management of fruit fly outbreaks in the so called Fruit Fly Exclusion Zone (FFEZ) which encompasses some of Australia’s most valuable horticultural production areas, including Sunraysia, the Mid Murray and the Goulburn Valley in Victoria, along with the Murrumbidgee Irrigation Area (MIA) of New South Wales and the Riverland of South Australia. Benefits will extend to suppression of wild fruit fly populations in the surrounding Risk Reduction Zone (which was established as a buffer zone in which Qfly is suppressed to minimise movement into the economically important FFEZ).

So, think twice before swatting the next wasp you see. It may be part of the team contributing to better fruit fly pest control.

*Olivia Kvedaras, Geoff Gurr, Andrew Jessup, Jennifer Spinner (PhD candidate)*

For more info contact: [Olivia Kvedaras](mailto:Olivia.Kvedaras@dpi.nsw.gov.au)
Library

References [year 2008-2009]

Follow the link to retrieve all TWD bibliographic references of year 2008–2009

[TWD_Bibliographic_References_2008_2009]

Please try to contact the authors first for papers you may wish to have.

Proceedings

FRUIT FLY RESEARCH IN INDIA

The present issue of *Pest Management in Horticultural Ecosystems*, is devoted entirely to the findings of the fruit fly research work carried out at Varanasi, Lucknow, Sardarkrushinagar, Anand, Gandevi, Thirissur, Thiruvananthapuram, Bhubaneswar and New Delhi Centres in India under the project entitled “Integrated Management of Fruit Flies (Diptera: Tephritidae) in India [IMFFI]”, a joint venture of ICAR and DFID (UK) operated during 2002–05. The findings are presented in 30 papers, which include the major recommendations for managing fruit fly pests (*Bactrocera* spp.) of fruits and vegetables through IPM technology developed through this project devoted entirely to the findings of the fruit fly research work.

Contents

Contact:
**Dr. A. VERGHESE**

Chief Editor, Pest Management in Horticultural Ecosystems

Indian Institute of Horticultural Research, Hessaraghatta, Bangalore 560 089, Karnataka, India

avergis@ihr.ernet.in

Job Opportunities

**Fruit fly Genomic Researcher Position**

(Posted on TWD NEWS 14–02–2009)

ARS (Hilo–Hawaii) is looking for a researcher to work on genomics of oriental fruit fly. This is a permanent position. Deadline is Feb 20, 2009. US citizenship required

If you know of anyone who might be interested please refer them to the link below

**More ...**

Aloha

**Eric Jang**
Queensland University of Technology (QUT) fellowship scheme

QUT offered for the first time last year the “Vice–Chancellor’s Research Fellowship Scheme” (http://www.research.qut.edu.au/development/find/internal/). While the web-site still only has last year’s information, the word internally is that the scheme will be called again around June/July. There are unlikely to be any major changes to the application process. I am happy to discuss the potential for developing fruit fly (Bactrocera) projects with interested researchers.

Dr Anthony (Tony) R. Clarke, F.R.E.S.
Associate Professor in Ecology
School of Natural Resource Sciences
& CRC National Plant Biosecurity
Queensland University of Technology
GPO Box 2434
Brisbane, QLD 4001, Australia
Ph: (Int) 61 7 3138 5023
Fax: (Int) 61 7 3138 1535
e-mail: a.clarke@qut.edu.au

For more opportunities, check Jobs...

Event Calendar (Updated)

The Royal Museum for Central Africa in Tervuren (Belgium) is organizing a 2 weeks training course for African researchers on fruit fly identification with introductions on other aspects related to fruit fly research in Africa. September 7–18, 2009

The official announcement and application:

Contact:
Marc De Meyer
Head Entomology Section
Royal Museum for Central Africa
marc.de.meyer@africamuseum.be
XIX International Training Course on Fruit Flies in Mexico
August 17 – 28, 2009,
MOSCAMED MOSCAFRUT program,
SENASICA, SAGARPA
Metapa, Chiapas Mexico

Information and application:
Dr. Pablo J. Montoya–Gerardo
pmontoya@prodigy.net.mx
desamed@prodigy.net.mx

Information (Espanol - pdf)
Information summary (English, Espanol - doc)

4TH EUROPEAN MEETING OF THE IOBC/WPRS WORKING GROUP

“INTEGRATED PROTECTION OF OLIVE CROPS”

June 1–4, 2009, Cordoba, Spain

Authors wishing to participate at the Congress are requested to submit the Abstract by March the 15th, 2009. Economic REGISTRATION FEES also before March 15, 2009.

Contact:
Dr. Enrique Quesada Moraga
President of the Organizing Committee of 4th European Meeting of the
Workshop on Agriculture Biosecurity in Australia:

This international training workshop based at the Griffith University Fruit Fly Research Program, is conducted by the International Centre for Management of Pest Fruit Flies (ICMPFF). The teaching staff includes R. A. I. Dew and S. Vijasegaran. The workshop covers a wide range of topics like fruit fly identification, biology, quarantine strategies, emergency response and meeting the requirements of the WTO–SPS agreement. The workshops will be offered in March and September 2009.

For additional information please contact d.drew@griffith.edu.au.

Source: IPC [http://www-naweb.iaea.org/nafa/ipc/news-ipc.html]
http://www.sanibel-resort.com

8th International Symposium on Fruit Flies of Economic Importance (ISFFEI),
Valencia (Spain) in 12–17 September, 2010.
Find out more at:
Invitation
8th_ISFFEI_First presentation

Contact: Beatriz Sabater
8th ISFFEI Secretariat
fruitfly2010@gva.es

(The second announcement will be soon released with updated information)

IOBC/WPRS WORKING GROUP, INDUCED RESISTANCE IN PLANTS AGAINST INSECTS AND DISEASES, "Induced Resistance—Chances and Limits."
Granada, SPAIN, 12–16 May 2010.
Contact: M.J. Pozo,
mailto:MariaJose.Pozo@eez.csic.es.
Tel: 34–958–181600. ext. 233.
Http://www.fvccee.uji.es.

4TH IOBC/WPRS WORKING GROUP MEETING, GMOS IN INTEGRATED PLANT PRODUCTION,
Rostock, GERMANY, 14–16 May 2010.
Contact: J. Romeis,
mailto:Joerg.Romeis@art.admin.ch.

INTERNATIONAL COURSE: INTEGRATED PEST MANAGEMENT (IPM) AND FOOD SAFETY,
Contact: H. Stoetzer,
Wageningen International, PO Box 88, 6700 AB, Wageningen,
THE NETHERLANDS.
61ST INTERNATIONAL SYMPOSIUM ON CROP PROTECTION,
Gent, BELGIUM, 19 May 2010.
Contact: P. Spanoghe,
Dept. of Crop Prot., Univ. of Gent, Gent, BELGIUM.
Mailto:Pieter.Spanoghe@ugent.be
Fax: 32–926–46249.
Tel: 32–926–46009.

INTERNATIONAL CONGRESS ON BIOLOGICAL INVASIONS,
Fuzhou, CHINA, 02–06 November 2010.
Contact: mailto:icbi2009@fjau.edu.cn
Http://www.icbi2009.org

Improving Sterile Male Performance in Fruit Fly Sterile Insect Technique (SIT) Programmes,
Research Coordination Meetings (RCM) of Coordinated Research Projects.
Contact: J. Hendrichs (j.hendrichs@iaea.org).

Development of Mass Rearing for New World (Anastrepha) and Asian (Bactrocera) Fruit Fly Pests in Support of Sterile Insect Technique (SIT),
Contact: A. Jessup (A.Jessup@iaea.org).

Call for Contribution
Please submit materials, publications, notice of events, news, documents, information, grant or job opportunities you would like to post on TWD NEWS and share with the rest of the Tephritid workers community to bakri@ucam.ac.ma; pliedo@ecosur.mx; or olivia.kvedaras@dpi.nsw.gov.au.

You can also contribute by spreading the word about Tephritid Databases (www.tephritid.org)
and encourage your colleagues to join.

We have received a positive feedback from our members regarding the content of FFN and we will continue listening and developing this communication tool according to your suggestions. As you are reading these last lines of the FFN, we would like to hear from you as well:

1) What is your opinion about FFN?
2) Do you think this is a communication tool we should maintain in the fruit fly workers community?
3) Which section(s) or aspects are the most important for you?

With many thanks in advance for your collaboration.

**Acknowledgments:**
Special thanks to all contributors for their valuable input.

**Editors’ team:**
Abdel Bakri, Pablo Liedo and Olivia Kvedaras.

*For enquiry contact:* bakri@ucam.ac.ma; pliedo@ecosur.mx; olivia.kvedaras@dpi.nsw.gov.au