Fruit Fly News

FFN#28 JUNE 2014

FOR TEPHRITID FRUIT FLY WORKERS

THANK YOU THAILAND!

Olive fly populations in Spain

Is Bactrocera invadens B. dorsalis?

9th ISFFEI Summary & Photo gallery

FRUIT FLY NEWS

June 2014

No. 28

In this issue…

Fruit Fly News editors

- Abdeljelil Bakri
- Brian Barnes
- Olivia Reynolds
- Pablo Liedo

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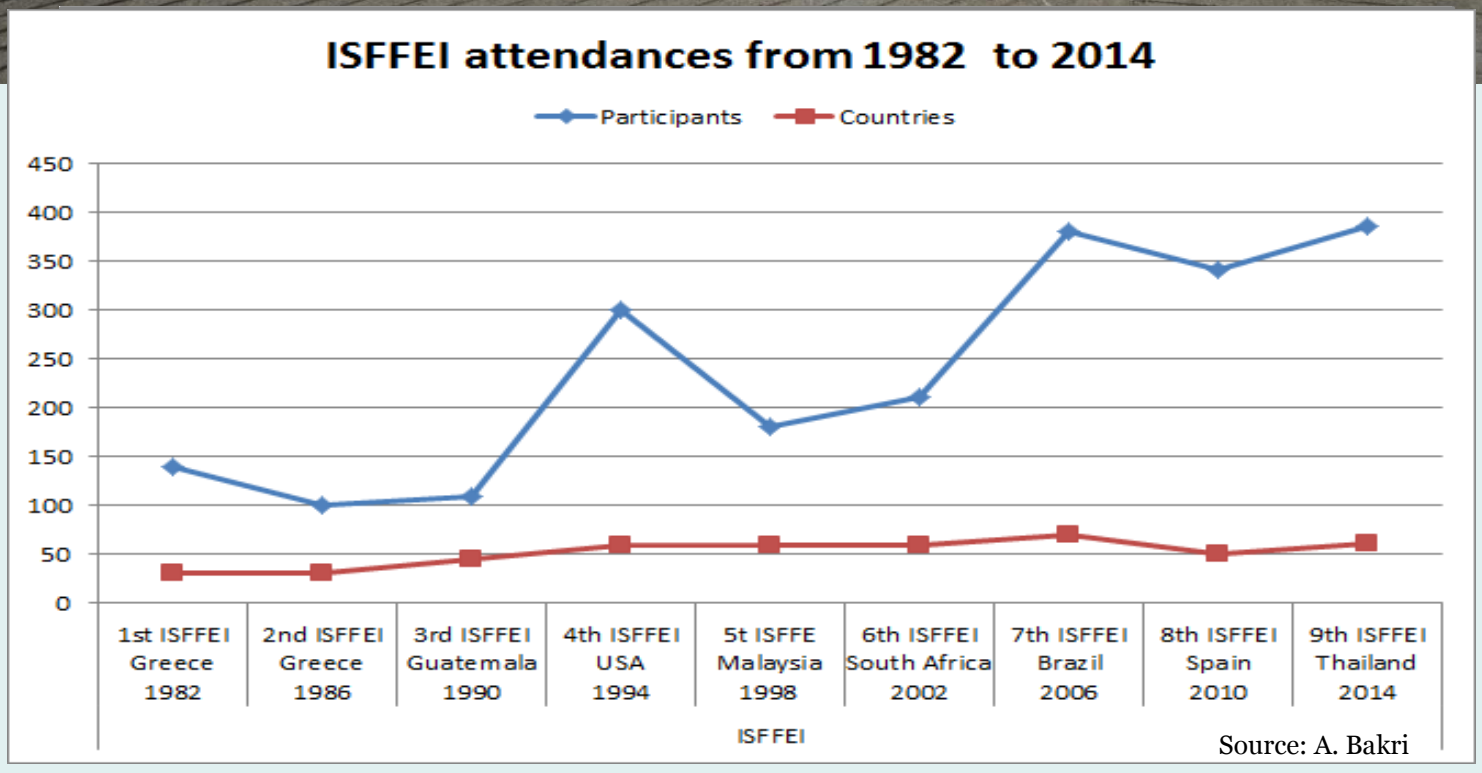
Summary

The 9th ISFFEI beat all the previous records! The highest number of participants, the highest number of countries, the outstanding organisation, the excellent food, and the stunning meeting venue. We were all very impressed. More



The figure above shows the numbers of ISFFEI participants and countries over the past three decades

IFFSC activities

Standing from left to right: A. Verghese, M. De Meyer. A. Bakri, A. Malavasi, P. Montoya, P. Liedo, Y. Gazit, R. Pereira, N. Kouloussis
Sitting L to R: B. Sabater-Munoz, T. Vera, W. Orankanok, A. Malacrida, O. Reynolds, N. Epsky.
Missing: K. Bloem, P. Sookar, C. Niu, S. Ekesi

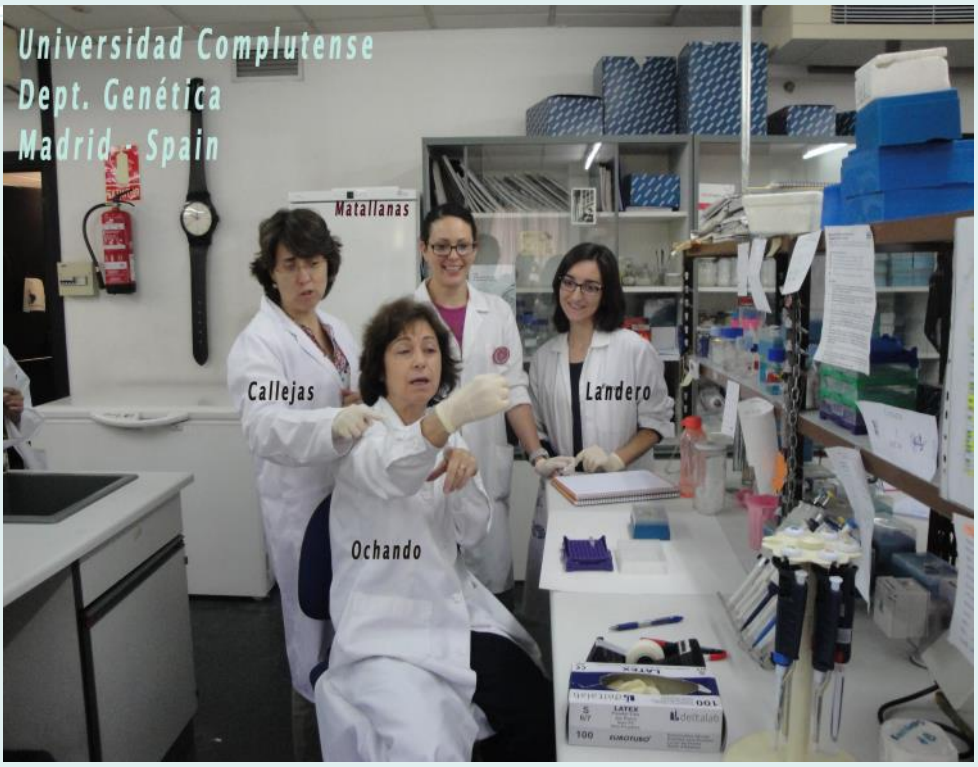
Activity of **IFFSC** during the **9th ISFFEI**:

- Mexico was selected to host the 10th ISFFEI 2018.
- Election: Members present unanimously elected Rui Pereira as the new committee chairman. Congratulations to the outgoing chairman, Aldo Malavasi, for his new position with IAEA. His longtime leadership and committement to the IFFSC is highly appreciated.
- Changes in the committee: Outgoing members: B. Sabater-Munoz, Serge Quilici, Brian Barnes, Bob Mangan and Aldo Malavasi.
- New members: P. Sookar (Mauritius) and Chang Ying Niu (China)
- Members of the IFFSC that were present received an award for their contribution to the preparation of the 9th ISFFEI. The awards presented by the Permanent Secretary of the Ministry of Agriculture and Cooperatives (MOAC) of Thailand.

9th ISFFEI Photo gallery

More photos at TWD **photo gallery**

Spanish populations of olive fly *Bactrocera oleae*

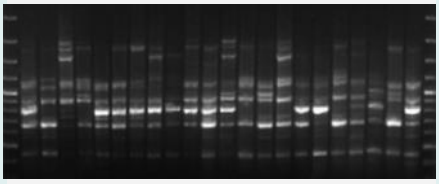


Spain, the first olive oil producing country, has a pest of olives of significant agricultural concern, the olive fruit fly, *Bactrocera oleae*. The extension of olive tree cultivation in Spain has been favourable for an increase in the effective population size of olive flyies. Depending on the year and the climatological conditions, this pest is not only considered an agricultural pest, but also an important economic problem in Spain (Figure 1). Augmented resistance in olive flies has resulted from the indiscriminate use of pesticides. Chemical residues detected in the environment and food products have increasingly become an important human health concern. The European Union –with 77% of the world olive oil production - is regulating the use of pesticides as a means of reducing the harmful effect of chemicals. The EU and the National and Regional administrations in Spain are attempting to enhance the current development and acceptance of integrated pest management and biological control programs. There is consensus that increased scientific knowledge of such species and their natural enemies will lead to more effective biological control. Therefore, acquiring additional scientific information on olive fly populations, in particular knowledge of their genetic structure is crucial for improving the fight against this pest.

Infested olive fruit

Infested olive fruit

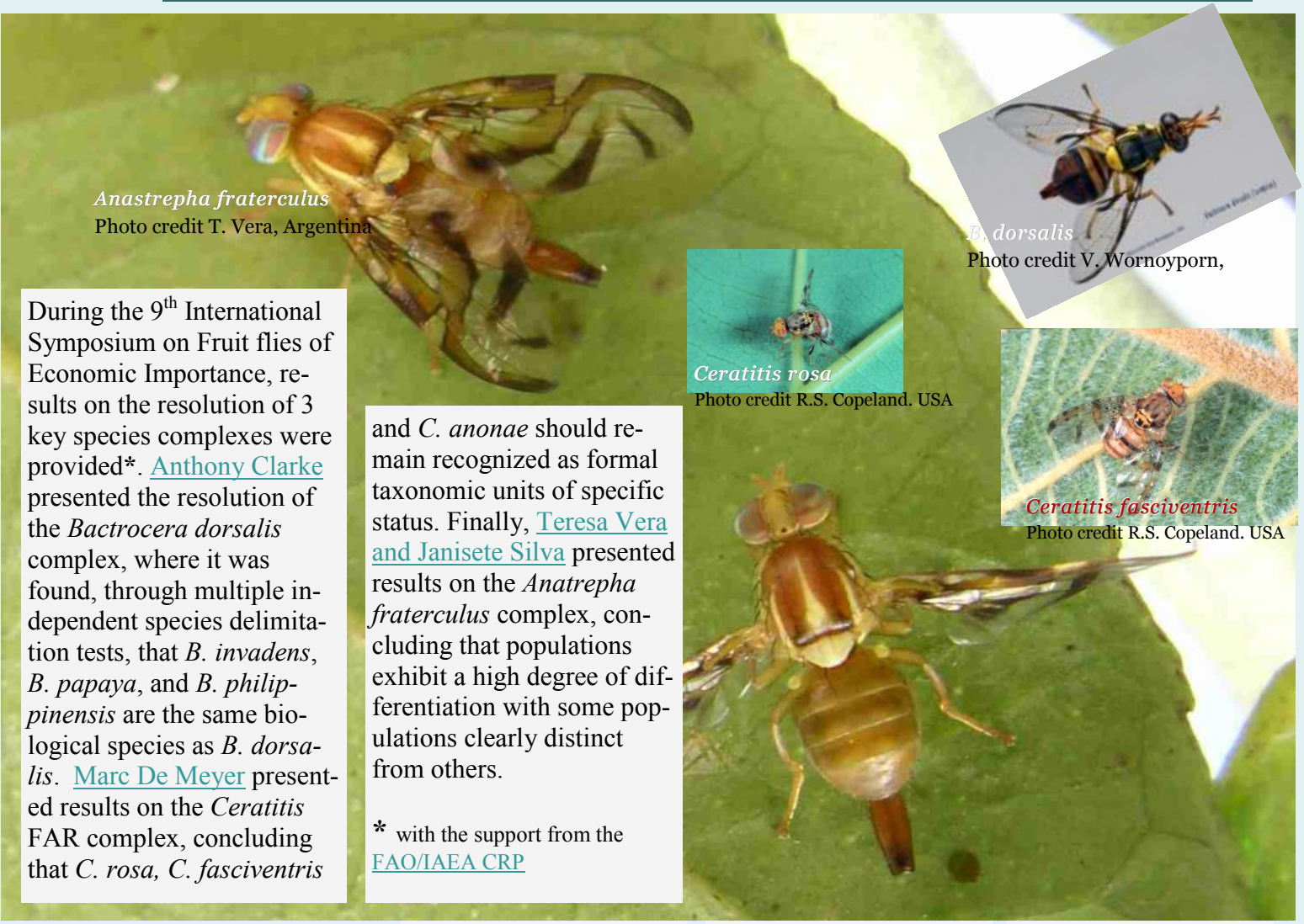
DNA methodologies are becoming popular tools for tackling insect pest problems. Our research group is performing



extensive genetic research on *B. oleae* (funded by the Spani-levels. Our aim was to..

More

Cryptic species complexes



Anastrepha fraterculus
Photo credit T. Vera, Argentina

B. dorsalis
Photo credit V. Wornoyporn,

Ceratitis rosa
Photo credit R.S. Copeland. USA

Ceratitis fasciventris
Photo credit R.S. Copeland. USA

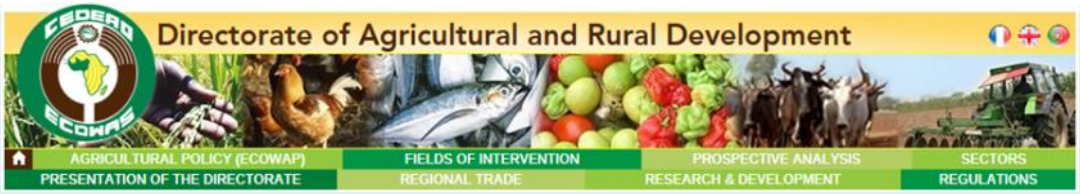
During the 9th International Symposium on Fruit flies of Economic Importance, results on the resolution of 3 key species complexes were provided*. Anthony Clarke presented the resolution of the *Bactrocera dorsalis* complex, where it was found, through multiple independent species delimitation tests, that *B. invadens*, *B. papaya*, and *B. philippinensis* are the same biological species as *B. dorsalis*. Marc De Meyer presented results on the *Ceratitis* FAR complex, concluding that *C. rosa, C. fasciventris* and *C. anonae* should remain recognized as formal taxonomic units of specific status. Finally, Teresa Vera and Janisete Silva presented results on the *Anatrepha fraterculus* complex, concluding that populations exhibit a high degree of differentiation with some populations clearly distinct from others.

* with the support from the FAO/IAEA CRP

TAAO group launched

TAAO

The new group of Tephritid Workers of Asia, Australia and Oceania (TAAO) has presently 265 members from 29 countries. A preliminary meeting was held during the 9th ISFFEI in Thailand (12-16 May 2014) and the participants from the TAAO region decided to have a structure similar to the TEAM and TWWH groups with a Steering Committee, regular regional meetings and a newsletter. Malaysia offered to organize the first TAAO meeting in 2016. Marc Schutze (Australia) and Kah-Wei Hee (Malaysia) are voluntarily coordinating the group activities until the next meeting.



The Regional Fruit Fly Control Programme in West Africa

The Economic Community of West African States (ECOWAS) is a regional group of fifteen countries, founded in 1975. The Directorate of Agricultural and Rural Development is implementing several initiatives, projects and programs leading to the sovereignty and food and nutrition security in West Africa. The Regional Agency for Agriculture and Food (ARAA) mandate is to ensure the technical implementation of regional programs and investment plans that contribute to the operationalization of the ECOWAS agricultural policy, relying on institutions, regional organizations and actors with proved "skills.

In the framework of the "Programme Régional d' investissement Agricole" (PRIA) (2011-2015), the Regional Programme to Control Fruit fly in West Africa was set and is funded by the European Union and the French Development Agency (AFD*). The programme is expected to start its activities in 2014. A notice for expressions of interest was launched and led to the selection of three firms. Records of tender (TdRs_CEDEAO_Mouche) were sent to these firms and at the end of this process a firm will be appointed to lead the implementation of the project.

A meeting called "Launching of fruit flies projects" is planned on Saturday 6 September 2014 in Bamako, Mali. The meeting agenda: Definition of areas of work and activities for the year 2014-2015 to implement the regional programme against fruit fly in West Africa

Previous related project (pdf)

South Australia

Sterile medflies released

Scientists in Western Australia are breeding millions of fruit flies for release in South Australia. In Australia, there are two species of fruit fly - the Mediterranean and (...)

Probiotic diets for Queensland fruit fly, *Bactrocera tryoni* (Froggatt)

Dr Olivia Reynolds

Graham Centre for Agricultural Innovation

Centre of Excellence for Plant and Animal Health,
Elizabeth Macarthur Agricultural Institute, Menangle, NSW, Australia

DEANE WORUBA
(Papua New Guinea)

Mr Deane Woruba was recently competitively selected and awarded a Cooperative Research Centre Plant Biosecurity PhD Scholarship to work on the development of a probiotic diet for adult Queensland fruit flies in Australia.

Adult sterile Queensland fruit fly
(note orange fluorescent dye on ptilinum)

Mr Woruba will be enrolled at the University of Western Sydney (UWS) and will work closely with a team at the Centre of Excellence for Plant and Animal Health, Elizabeth Macarthur Agricultural Institute, New South Wales Department of Primary Industries (Dr's Olivia Reynolds & Toni Chapman) and the Hawkesbury Institute for the Environment, UWS (Dr Markus Riegler).

An Area Wide Integrated Pest Management project incorporating the Sterile Insect Technique has been funded by Horticulture Australia Ltd using Industry funds and matched funds from the Australian Government. This project will soon employ a Research Fellow, to commence under the guidance of Dr's Reynolds and Chapman, working on the development of a larval probiotic diet for mass-reared flies and will complement Mr Woruba's work.

Existence of species complex largely reduced barcoding success for invasive species of Tephritidae: a case study in *Bactrocera* spp.

JIANG FAN *

The existence of species complexes largely reduced the barcoding success for Tephritidae. Relatively low success rates (74.4% based on Best Match (BM) and Best Close Match (BCM) and 84.8% based on Minimum Distance (MD) were ... Abstract

Prof Zhihong Li and her students
(students originate from China and Africa)

*Ms. **Jiang Fan** is a Ph.D. candidate student (CV) working in the laboratory of **Prof Zhihong Li** (in the centre of the photo) at China Agricultural University, College of Agriculture and Biotechnology, Department of Entomology, Beijing, China.

Ms. Jiang aims to finish her PhD in June 2015 and will be looking forward to a postdoc opportunity abroad.

Tephritidae fruit fly references

January– June 2014 (Records)

Why not send us a short story about your lab?

Contributions received before 1st September 2014 will be posted on the next FFN issue (#29).

Next events

24th IINTERNATIONAL TRAINING COURSE ON FRUIT FLIES, June 30-July 11, 2014. Metapa, Chiapas, Mexico,

7th INTERNATIONAL SYMPOSIUM ON MOLECULAR INSECT SCIENCE, 13 – 16 July, 2014, Amsterdam, Netherlands.

8th INTERNATIONAL CONGRESS OF DIPTEROLOGY, August 10 -15, 2014, Potsdam, Germany

29th INTERNATIONAL HORTICULTURAL CONGRESS| 17-22 August 2014 |Brisbane, Australia. 3 symposia:

Biosecurity, Quarantine Pests and Market Access|

Innovative Plant Protection in Horticulture|Postharvest Knowledge for the Future

25th INTERNTIONAL CONGRESS OF ENTOMOLOGY (ICE 2016), September 25 - 30, 2016, Orlando, Florida, USA.

3rd MEETING OF TEPHRITID WORKERS OF EUROPE, AFRICA & THE MIDDLE EAST (TEAM 2016) , Stellenbosch , South Africa.

9th MEETING OF TEPHRITID WORKERS OF THE WESTERN HEMISPHERE (TWWH) 2016 , Argentina.

1st TAAO MEETING, MALAYSIA 2016 (Local organizer Kah-Wei Hee).

10th ISFFEI-Tapachula, Chiapas, Mexico-2018

Postdoc Opportunity

The Fruit Fly Research Group at the Queensland University of Technology, Brisbane, Australia, will very shortly be recruiting for a three year postdoctoral level appointment in fruit fly genetics/ genomics. Anyone interested please keep an eye on the QUT job. We anticipate the job being advertised within the next few weeks.

A/Prof Anthony (Tony) R. Clarke, F.R.E.S.

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