

# The Bemisia Workshops – history from a personal perspective

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## Introduction

While approaching the First International Whitefly Symposium I'd like to share with you the way, how we got here, how the previous meetings have reflected the dynamics of multidisciplinary research trends, and what the future goals are.

The First International Whitefly Symposium will take place between the 20th and 24th of May 2013 in Kolymbari, Crete, Greece. This symposium combines the former European Whitefly Symposia and the International Bemisia Workshops and will convene 19 years after the first International *Bemisia* Workshop. In the following lines I'd like to review the history of the *Bemisia* workshops and show how and why their tradition had established, bringing us to the present meeting in its new format.

I'd like to show how the idea of the International *Bemisia* workshop developed, how the logo that still serves us was conceived and how the meetings continued as a series. Thus they helped to disseminate information on the extensive developments in all the diverse scientific and applied *Bemisia*-related fields.

On a personal note, I feel privileged to have been involved in the organization of the first workshop and, presently, being able to review the history of these meetings to date, with a view to the future.

## Background

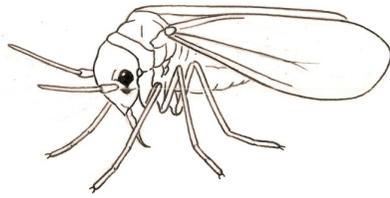
Judging from comments of Gennadius (1889) *Bemisia tabaci* populations have always created agricultural problems. Therefore, it was natural for me, who worked on whiteflies for his PhD, to study *B. tabaci* throughout my career. I studied the pest and its natural enemies and established a "*Bemisia* newsletter". The turning point came in 1986 when reports of a "new" *Bemisia* emerged from Florida and California. The terms "poinsettia strain" and "biotype A and B" started to dominate the terminology of those who worked with the ever-worsening problems that growers and entomologists had to face.

The world-wide interest in the new challenges that this pest posed followed, with considerable increase in studies and an increase in the volume of information that became available. These brought Dr. Richard Mayer (USDA, ARS, Orlando, FL, USA) to suggest that we convene an international workshop on the topic.

## The first workshop

Organizing a workshop always includes going over similar steps of informing colleagues, which was done at that time by regular mail and by finding a suitable venue, for which we selected the resort village of Shores, near Jerusalem. We also mobilized funds where, in addition to obtaining several contributions, we were successful in securing an international grant from BARD (US-Israel Binational Agricultural Research and Development fund). We also were fortunate to obtain the assistance of Dr. D. Kopp, from the USDA, who helped in bringing several distinguished research personnel from the United States. Moreover, this being a first workshop about *B. tabaci*, we also looked for a suitable logo. This, like most things went through several evolutionary steps that are given hereunder.

First, with the artist Walter Ferguson we prepared a drawing of the insect

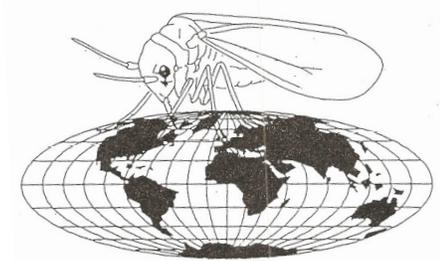


Then, we wanted to show its world-wide importance

Our first design:



Next, we produced an improved version:



Finally, with the aid of the graphic designer Dan Arnon, the final version was produced

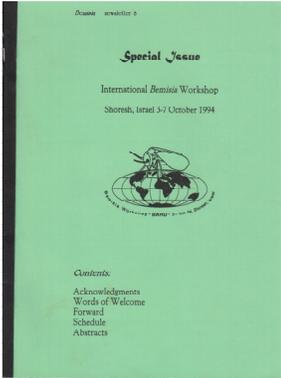
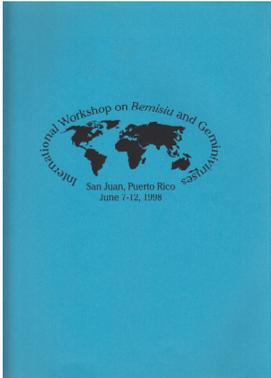
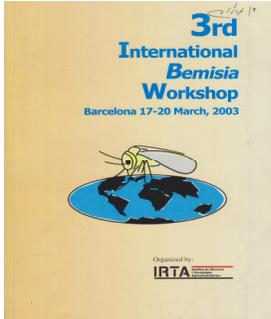
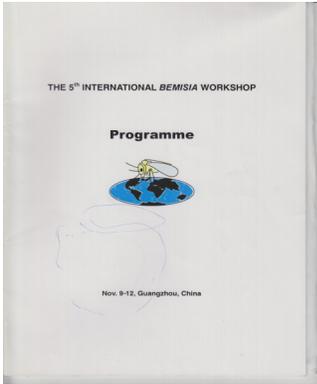


The first workshop started with 106 presentations and 150 participants, which pointed to the interest in such a meeting and encouraged us greatly.

During its last day, discussions were held about the needs of future research on *B. tabaci* and the directions that we should follow. The resulting recommendations included the first world-wide call for the use of "basic and applied research of genetic and intrapopulation diversity, in order to elucidate the nature of the *B. tabaci* complex". In addition, a call of mapping of the pest's occurrence in the world and a coordinated effort for its study were made. Thus, the first meeting set the stage for directing future research of *B. tabaci*, leading to the later extensive speciation studies that were so well presented in the following workshops, especially in the 5<sup>th</sup> workshop held in China.

We also decided that the positive response and fruitful information exchanges obtained in this meeting, warranted the convening of a series of additional workshops, one every 2-4 years, each in a different country.

This has set the stage for the next four meetings:

<p>1<sup>st</sup> Shores, Israel (3-7 Oct. 1994)</p> 	<p>2<sup>nd</sup> San Juan, Puerto Rico (7-12 June 1998)</p> 	<p>3<sup>rd</sup> Barcelona, Spain (17-20 March 2003).</p> 
<p>4<sup>th</sup> Duck Key, Florida (USA) (3-6 Dec.2006)</p> 		<p>5<sup>th</sup> Guangzhou, PRC (China) (9-12 Nov. 2009)</p> 

## Facts and numbers

Attendance in the meetings, judging by the numbers of abstracts and posters presented, varied between 100-and 200 participants.

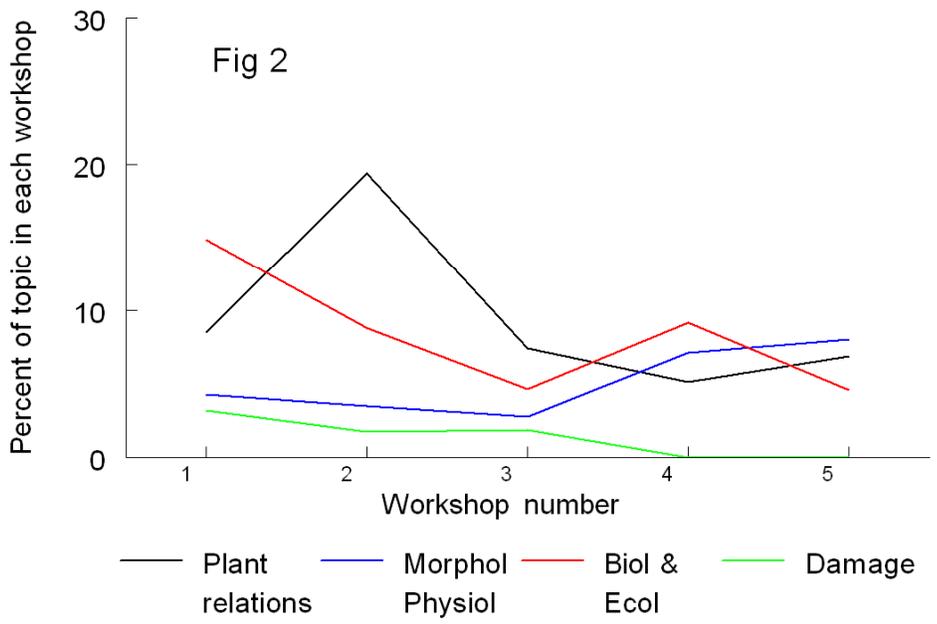
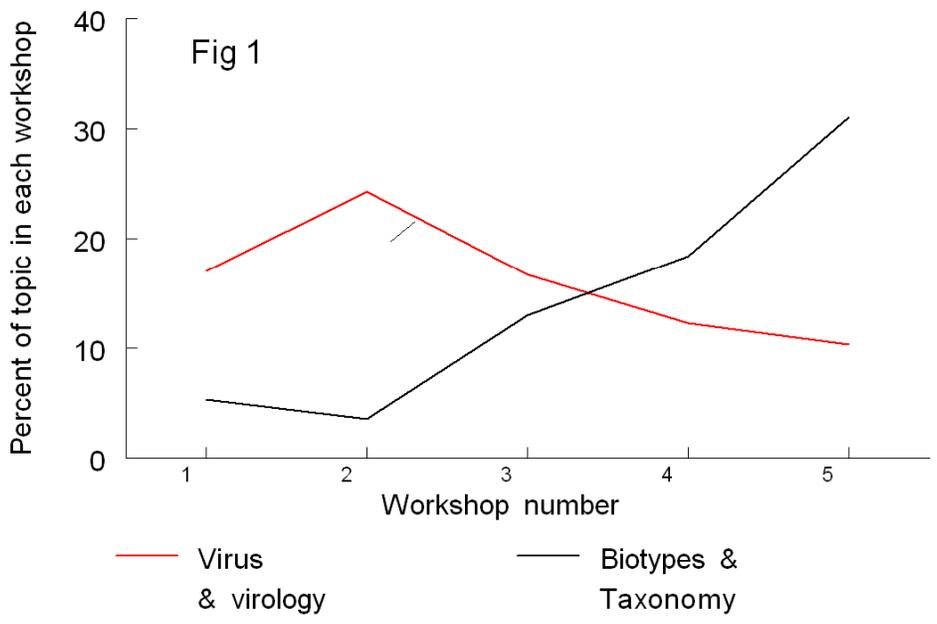
Venue & year	Lectures	Posters	Notes
Israel 1994	51	55	
Puerto Rico 1998	113	71	Joint meeting with geminivirus group
Barcelona 2003	60	50	
Florida 2006	49	60	Followed by whitefly genomics workshop
Gungzhou 2009	60	44	

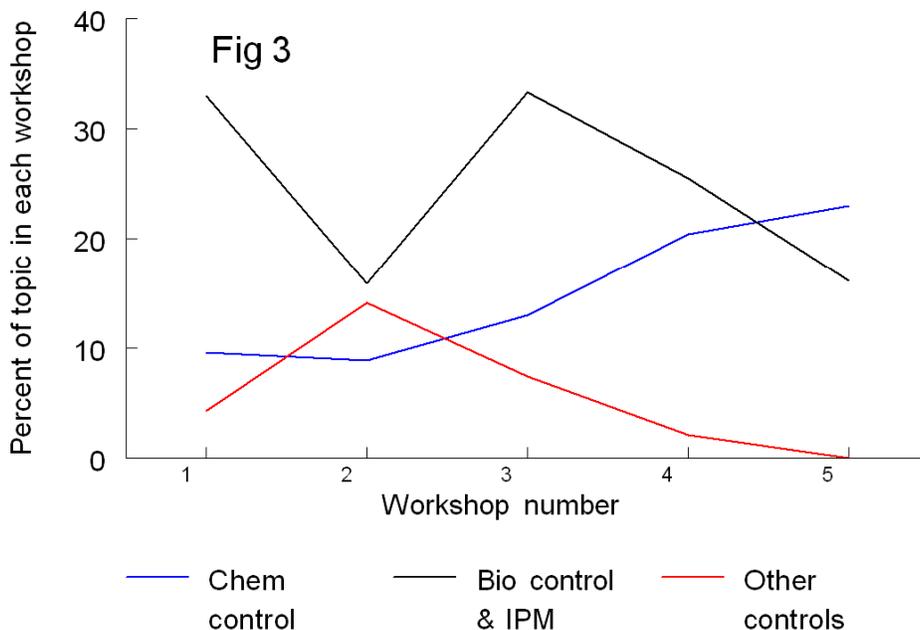
In a way typical for a vibrant and pertinent subject, the emphasis and topics of the five workshops moved ahead with the advances in the scientific achievements. Thus, although interest continued in similar topics, the emphasis changed to reflect the growing interest and advances in studies of *B. tabaci* biotypes and taxonomy (*s.l.*). The first meeting devoted about 5% of its presentations to the "biotype-related questions" whereas the 5<sup>th</sup> devoted over 30% to the same (Fig 1).

The classical biological topics (life history, ecology, physiology and morphology of *B. tabaci*) reflected the investment in basic knowledge of the insect and presented a background to the understanding of economic problems and their control. They reached a maximum of 15%, whereas the study of plant relationships amounted to 5-20% of the given presentations (Fig 2). Viruses and their study took 10-25% of the presentations with the highest in the second meetings that, in addition to general virological work included a special geminivirus workshop (Figure 1 in which ca. 25% of the lectures were virus-related was obtained while ignoring the extensive geminivirus workshop). Presentations concerning chemical control (Fig 3) consistently rose, while those dealing with IPM and biological controls fluctuated and the other means of control were represented mainly in the first three meetings (Fig 3).

Since all workshops included scientists whose interests covered the whole array of diverse topics that were presented, we achieved two important goals:

(a). Distributing the recent advances in *Bemisia*-related research among all, and (b). Encouraging cooperation and new work relationships among *Bemisia* scientists throughout the world.





### Recent developments

In September 2011, during the 4<sup>th</sup> European Whitefly Symposium held in Rehovot, Israel, the participants decided upon a merger of these meetings with those of the International Bemisia Workshops; thus enabling the public interested in all aspects of whitefly science, to benefit from the broad spectrum of scientific contributions and update themselves in the latest scientific achievements and in the cutting-edge scientific questions. Dr. Emmanouil Roditakis, (*NAGREF - Plant Protection Institute, Crete, Greece*) was assigned with organizing the first of the series of these new symposia.

### Looking to the future

The joint new series of International Whitefly Symposia will start with the forthcoming meeting in Crete (Greece), in which we hope to meet all those who are interested in whitefly science. We hope to meet colleagues from particular molecular speciation to worldwide distribution and from economically damaging species and virus transmitters to plant manipulators. We look forward to large and varied attendance in which all of our colleagues will be able to broaden their knowledge, contribute from their experience and form new and productive cooperative projects.

Wishing great success to the organizers and a fruitful event to all participants.

*Dan Heuling*

