

Mediterranean Phytopathological Union (MPU)



MPU BI-ANNUAL NEWSLETTER

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EDITORIAL

During the MPU General Assembly held recently in Rhodes Island, Greece, there was a unanimous decision to re-vitalize the MPU Newsletter and Dr. Safaa Kumari accepted the challenge to serve as the editor for this publication. With contributions from some members (and not all), we ended up with a rich and interesting publication, which all members, I am sure, will enjoy reading. As the MPU President for the coming three years, I will be working with all of you to promote MPU activities and improve the service it provides to members. As discussed in the MPU Board meeting held during the 12th MPU Congress in June, 2006, all members agreed to focus attention in the coming few years on three major targets: (i) improve the financial health of the Union, (ii) improve the quality of publications in our journal *Phytopathologia Mediterranea* and consequently improve its impact factor, and (iii) increase MPU membership. The new MPU Board will do its best to achieve these goals, but real success often comes from collective action. The MPU Board sincerely hope that all MPU members, each within his/her own capacity and contacts, try his/her best to promote the MPU cause. The MPU has served the scientific community in the Mediterranean region for more than half a century and it is hoped that this service will continue and prosper in the many years to come.

Khaled M. Makrouk
MPU President

12TH CONGRESS OF THE MEDITERRANEAN PHYTOPATHOLOGICAL UNION (MPU) RHODES ISLAND, GREECE, JUNE 11-15, 2006

The 12th Congress of the Mediterranean Phytopathological Union (MPU) was held in Rhodes Island, Greece, June 11-15, 2006, where around 200 scientists from all the Mediterranean Countries participated. In addition, scientists from the USA, New Zealand, Switzerland, Germany, Iran, United Kingdom, the Netherlands and South Africa joined the meeting. The meeting was very well organized by the Local Organizing Committee chaired by Professor Eleftherios Tjamos. The meeting program included four days of paper presentation sessions and a one day field trip around historical sites in Rhodes Island. Dr. Khaled Makkouk was elected as the MPU President for a three years term 2006-2009. Dr. Safaa Kumari was assigned the position of editor of the MPU Newsletter, which appears twice a year. The 13th MPU congress will be held at Bibliothica Alexandrena, Alexandria, Egypt, in June, 2009.



Participants of the 12th Congress of the Mediterranean Phytopathological Union (MPU) during the field trip around historical sites in Rhodes Island, Greece, June 2006 (Photo was taken by Alan Phillips)

MPU MEMBERS CONTRIBUTION

Dr Alan Phillips

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Research area: Taxonomy of fungal pathogens, genetic variability of fungal pathogens

Informal report: Throughout the last year we have continued our work on the phylogenetic relationships amongst species of *Botryosphaeria*. This work has become of greater interest to pathologists now that it is well established that some of these species are important pathogens, rather than weak pathogens and opportunists. Most of our effort has been placed on those species with dark-spored anamorphs placed in the genera *Diplodia*, *Lasiodiplodia* and *Dothiorella*. This last named genus has had a bad reputation for many years since it had been applied to a variety of morphologically and phylogenetically distinct genera. However, through a study of type specimens and fresh isolations we determined the distinctive characters of this genus and provided an up to date description including features not noted in the original description and also including phylogenetic information. We also linked three species in this genus to their respective teleomorphs. These linkages have caused some problems in the way we regard *Botryosphaeria* because the teleomorphs have brown, one-septate ascospores compared to the hyaline, aseptate

ones traditionally associated with *Botryosphaeria*. In fact, the ascospores of these fungi are more like those of *Dothidotthia* than of *Botryosphaeria*. This meant that we had to decide whether to broaden the concept of *Botryosphaeria* and possibly include *Dothidotthia* as a synonym, or to retain *Dothidotthia* and so create the way for a split in the genus *Botryosphaeria* (these isolates with brown ascospores are phylogenetically included within *Botryosphaeria*). Our initial decision was to broaden the concept of *Botryosphaeria* so that we could include these species. However, this was to be a short-lived decision. When we started to sequence more conserved genes (SSU and LSU) we could see that *Botryosphaeria* as we knew it was probably composed of a number of phylogenetic lineages and maybe these correspond to individual genera. Prof. Pedro Crous (CBS, Netherlands) took the initiative and with a large set of LSU data generated in his lab decided that there were indeed several genera within *Botryosphaeria*. This decision was recently published in *Studies in Mycology* and included contributions by researchers from The Netherlands, South Africa, Australia and Portugal.

Other noteworthy aspects of our work this last year include epitypification of the species that causes cankers of *Vaccinium* (*Botryosphaeria corticis*) and resolving the status of the cause of canker of Juniper and Cypress (*Diplodia cupressi*).

In the last year our lab has received visitors from Brazil, Russia, Slovenia, Italy and Germany for stays of up to six months. Of these, only one (Corrado Lazzizzera from Italy) worked on fungal pathogens (*Botryosphaeria* species on olives). The other visitors worked mainly on identification of yeasts.

After an interesting and fruitful year we look forward to what can be achieved in the next 12 months.

Dr Angelo Porta-Puglia

Retired, former director of the Epidemiology and Resistance Section, CRA-ISPaVe, Rome, Italy and Adviser, MRAE, Malta.

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Research area: *Fungal diseases, seed borne fungi.*

Informal report: As an adviser in Plant pathology (Mycology) at the Plant Health Department of the Ministry for Rural Affairs and the Environment, Malta since February 2004 until February 2006, Dr Porta-Puglia has drafted a checklist of fungal and fungus-like species pathogenic on crops (and on plants of environmental importance) in the Maltese Archipelago. He has given advice to the Plant Biotechnology Centre, the National Quarantine Service and the farmers. He has carried out national surveys and prepared drafts of pest risk analyses and contingency plans (namely on Karnal bunt of cereals) related to the commitment of the Republic of Malta as a new EU Member State. He is currently preparing a special issue of the journal 'Petria' (co-edited with D. Mifsud) on the plant pathology situation in Malta.

In June 2006 he was appointed as a member of the Plant Health Panel of the European Food Safety Authority (EFSA), Parma, Italy.

Dr Arben Myrta

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Research area: *Plant pathology of fruit trees, with particular reference to virus diseases*

Informal report: (i) Phytopathological surveys of fruit trees in different Mediterranean countries (Viruses, viroids and phytoplasmas), (ii) Improvement of detection and validation of diagnostic protocols for viruses and viroids in large-scale surveys.

Dr Drazenka Jurkovic

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Research area: Fungal diseases of arable crops (winter wheat, soybean, sunflower, sugar beat, maize).

Informal report: We are especially interested in *Fusarium* species on wheat (FHB, root rot, mycotoxins) and *Diaporthe/Phomopsis* complex on soybean and sunflower.

Dr Elia Choueiri

Head of the Department of Plant Protection at the Agricultural Research Institute of Lebanon and researcher in Plant Pathology

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Research area: General Plant Protection/ Plant Virology

Informal report: The strategy of the Plant Protection Department located at the Lebanese Agricultural Research Institute worked out to protect the local horticultural production and fruit trees sector from the emerging and quarantine diseases. Our research highlights made to ascertain the sanitary status of the major crops and fruit trees. During 2006, an investigation on the occurrence of viruses and phytoplasma diseases of grapevine and related vectors with some viruses were done. In addition, the occurrence of field grapevine declines (Esca, Eutypa dieback, BDA) also the fungal identification based on morphological and molecular characteristics were described. In the framework of a fruit tree certification project in Lebanon financed by the Italian Government, the sanitary status of the selecting candidate clones of commercially valuable local varieties of stone fruits and grapevine was carried out by serological and molecular tools. On the other hand, the incidence, severity, and distribution of six virus diseases were determined in the main production areas of Lebanon. Another work concerned the investigation of the bacterial quarantine diseases of potato such as brown rot and ring rot.

Finally, according to our surveys, several samples of stone fruits showing particular symptoms probably related to virological problems are under analysis.

Dr Giuseppe Belli

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Research area: Plant virus and phytoplasma diseases

Informal report: With my research group I studied mainly virus and phytoplasma diseases of grapevine (fanleaf, leafroll, flavescence dorée, bois noir) and of some fruit trees (sharka, apple proliferation).

Dr Hoda Hamed El-Hendawy

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Research area: Plant Pathogenic bacteria: Isolation, identification, determination of the virulence factors such as pectic enzymes, siderophores. Also I am interested in biological control of bacterial diseases of vegetables.

Dr Jelena Latinovic

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Research area: Plant pathology, mainly study on plant diseases caused by pathogenic fungi on agricultural and ornamental plants

Informal report: Since I have obtained my scientific titles based on studies of fungal diseases on olives, I intend to continue their examinations as well. However, it would not be the only field of interest but also study on sooty blotch and flyspeck complex of fungi on plums and apples in Montenegro, then *Phytophthora* on raspberry, esca and other diseases of grapevine and diseases of some ornamental plants of interest to Montenegro. In regard to some important phytopathological problems that could appear in Montenegrin agriculture, my research area therefore could be enlarged.

So far I have participated in relevant research projects named below:

- *Erysiphales* in Montenegro
- Studies on basic characteristics of *Colletotrichum gloeosporioides* (Penz.) Penz. & Sacc., a new olive pathogen for Montenegro
- Studies on basic characteristics of *Sphaeropsis dalmatica* Thum., causal agent of fruit rot of olives in Montenegro
- Investigation on various possibilities in control of *Phomopsis viticola* Sacc. in vineyards in Montenegro
- Diseases and pests of raspberry in Montenegro

Dr Latif R. Susuri

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Research area: Plant Pathology

Informal report: During autumn 2005, orchards were surveyed in four locations of south-western and southern Kosova for the presence of possible phytoplasma diseases in fruit trees. Symptoms resembling those of apple proliferation (AP), pear decline (PD), and European stone fruit yellows (ESFY) were observed in all the orchards visited. Samples were collected for laboratory assays from eight symptomatic apple trees, eight pear trees and three apricot trees.

During 2005, a survey was carried out to evaluate the presence of *Peach latent mosaic viroid* (PLMVd) and *Hop stunt viroid* (HSVd) on peach and apricot trees in Kosova. Leaves were harvested in November in orchards from 11 localities. These reports are the first record of, AP and PD in fruit trees, PLMVd and HSVd on peach and apricot trees in Kosova.

Booklets for Integrated Production Guidelines for IP aims at ensuring the general role of the Agriculture farms in the IP, defining the minimum of requirements and their satisfaction. This paper defines the general agriculture requirements as well as minimal operative ones, which should be met in the level of agriculture farms and respected during the definition of special instructions for agriculture crops.

Dr Naima Boughalleb

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Research area: Soil-borne fungi, seedborne fungi of cucurbits, watermelon, collapse, *Phytophthora* spp affecting apple trees.

Informal report: (1) Molecular characterization of *Fusarium oxysporum* f. sp. *niveum* and *F. solani* f. sp. *cucurbitae* isolated from watermelon plants in Tunisia; (2) Survey of *Monosporascus cannonballus* affecting watermelon plants in Tunisia; (3) Survey of behavior of grafted watermelon plants used for controlling Fusarium wilt disease; (4) Identification and distribution of Fusarium head blight of wheat in some areas in Tunisia; (5) Chemical control of *Phytophthora* affecting apple trees.

Dr Mustapha Khaddor

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Research area: Mycologic studies and biological control

Dr Rossitza Miltcheva Rodeva

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Research area: Plant resistance to fungal diseases

Informal report: Within the framework of a bilateral research project between the Institute of Genetics, Bulgarian Academy of Sciences, Sofia, Bulgaria and the Institute for Resistance Research and Pathogen Diagnostics, Federal Centre for Breeding Research on Cultivated Plants, Aschersleben, Germany I am working together with Dr. Gabler on fungal diseases of Apiaceae hosts. Another national research project is dedicated to pepper diseases caused by *Botrytis cinerea* and *Sclerotinia sclerotiorum*.

Dr Safaa Kumari

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Research area: Legume and cereal viruses.

Informal report: Viruses under investigation are *Faba bean necrotic yellows virus* (FBNYV), *Bean leafroll virus* (BLRV), *Beet western yellows virus* (BWYV), and *Bean yellow mosaic virus* (BYMV) on legume crops; and *Barley yellow dwarf virus* (BYDV) and *Barley yellow striate mosaic virus* (BYSMV) on cereal crops. Work is centered on epidemiology, detection, host range, crop losses, transmission, control, screening for virus resistance and development of diagnostic kits. During the last 15 years the Virology Lab at ICARDA prepared diagnostic kits for the detection 15 legume and 5 cereal viruses. Those kits were made available to all Virology Labs in the Central and West Asia and North Africa (CWANA) region, to be used for monitoring virus spread in crops as well as for testing for seed-borne viruses. In addition, the Virology Lab at ICARDA receives routinely, blotted membranes from different CWANA countries for processing by Tissue blot immunoassay (TBIA) test.

We would like to share with MPU members the following news:

- *Dr Alan Phillips, Portugal* - This newsletter would appear to be a great place to share techniques and other small details of everyday laboratory life that could be of interest and use to other pathologists. Sometimes such techniques are never published and are never known to anyone outside of a specific laboratory. I started to write one such technique (the method we use to store cultures) but I did not have time to finish it. But I will make sure it is done in time for the next Newsletter.
- *Dr Arben Myrta, Italy* – (i) Information on Research programs and news on fruit tree plant pathology; (ii) Participation in research and cooperation projects on the same issues
- *Dr Drazenka Jurkovic, Croatia* - I would like to share with MPU members our topic research: finding *Fusarium* and *Diaporthe/Phomopsis* species on weeds and wild plants, their identification and possible pathogenicity to cultivated plants
- *Dr Elia Choueiri, Lebanon* - I published in 2005 a technical book concerning the diseases and insects affecting stone fruit trees and olives and their management strategies (In Arabic) 103 p. On the other hand, I am waiting to publish this year (2006) another technical book (also in Arabic) regarding the main diseases infecting grapevine, pome fruits and citrus and their management strategies. Together with the Arab Society for Plant Protection (Dr. Khaled Makkouk) we are preparing a scientific book for Plant Virology (In Arabic).
- *Dr Hoda Hamed El-Hendawy, Egypt* – (i) Reviewing manuscripts and thesis; (ii) Joint research projects.
- *Dr Jelena Latinovic, Montenegro* - Any news that are relevant to my field of interest of mine as well as all MPU activities that could be shared, are more than welcome. I appreciate if the information could be sent to me on my email address.
- *Dr Mustapha Khaddor, Morocco* – (i) a fungi analysis both of oïdium of the rose-trees and of peacock eyes; (ii) the effect of some fungicides, essential oils of plants and lactic bacteria on the fungi species responsible for the two diseases.
- *Dr Naima Boughalleb, Tunisia* – (i) Recent publications; (ii) Workshops on fungi affecting cucurbits and on soil borne fungi affecting trees; (iii) Seed-borne diseases; (iv) Use of mycorrhiza to control fungi.
- *Dr Rossitza Miltcheva Rodeva, Bulgaria* - The Fourth Balkan Congress was held in Sofia, Bulgaria, from 21 to 25 June 2006

General information and comments on future of MPU:

- *Dr Elia Choueiri, Lebanon* - (i) To establish a Network between the researchers according to their research area; (ii) To circulate the recent results on new diagnostic methods for the routine tests for identification of plant diseases; (iii) To provide financial support to members that participating in MPU conferences (this for some particular cases if it is possible)

- *Dr Jelena Latinovic, Montenegro* - MPU is a great opportunity to be a part of a scientific network in the Mediterranean region and to share knowledge and experience with other colleagues.
- *Dr Naima Boughalleb, Tunisia* – Establishment of link between membership of MPU and consolidate the project of cooperation between our countries.
- *Dr Rossitza Miltcheva Rodeva, Bulgaria* - I am a quite new member of MPU. I was very glad to meet many phytopathologists who are working on Mediterranean crops or have other Mediterranean links at 12th MPU, 11-15 June 2006, Rhodes Island, Greece

Coming Events:

- ▶ 3-4 May 2007
International Congress on Novel Approaches for the Control of Postharvest Disease and Disorders, Bologna, Italy.
Please contact Dr Paolo Bertolini, Email: paolo.bertolini@unibo.it
- ▶ 21-25 May 2007
XII International IUPAC Symposium on Mycotoxins and Phycotoxins, Istanbul, Turkey
<http://iupac2007-mycotoxin.atal.tubitak.gov.tr/>
- ▶ 24-27 September 2007
16th Biennial Australasian Plant Pathology Society Conference, Adelaide, Australia
www.australasianplantpathologysociety.org.au/
- ▶ 15-18 October 2007
XVIth International Plant Protection Congress (IPPC), Glasgow, United Kingdom
www.bcpc.org/iapps2007/
- ▶ 21-26 October 2007
14th International Botrytis Symposium, Cape Town, South Africa
www.conferencesetal.co.za, conf@conferencesetal.co.za
- ▶ 12-15 November, 2007
1st meeting of International Phytoplasmologist Working Group, Bologna, Italy.
Please contact Dr Assunta Bertaccini, Email: bertaccini_a@biblio.cib.unibo.it
- ▶ 22-24 November, 2007
5th International Congress of Mediterranean Group on Pesticide Research (MGPR), Agadir, Morocco.
www.iavcha.ac.ma; mgpr2007@gmail.com
- ▶ 26-30 July 2008
APS Annual Meeting, Minneapolis, Minnesota, USA
www.apsnet.org
- ▶ 24-29 August, 2008
ICPP 2008, Torino, Italy,
Contact: Prof. M.L. Gullino, University of Torino: marialodovica.gullino@unito.it
www.icpp2008.org

Papers Published by MPU members during 2005-2006:

BACTERIAL DISEASES

- El-Hendawy, H.H. 2005. Accumulation of proteins in cucumber cotyledons resistant to *Pectobacterium carotovorum* subsp. *carotovorum*. *Phytopathologia Polonica* 37,11-21
- El-Hendawy, H.H. and M.E. Osman. 2005. Effect of sodium chloride and glycine betaine on growth and pectate lyase production by *Erwinia carotovora* subsp. *carotovora*. *Pakistan Journal of Biological Science* 8: 330-334.
- El-Hendawy, H.H., M.E. Osman and N.M. Soruor. 2005. Biological control of bacterial spots Caused by *Xanthomonas campestris* pv. *vesicatoria* by using *Rahnella aquatilis*. *Microbiological Research* 160: 343-352.
- El-Hendawy, H.H., M.E. Osman and S.M. Korany. 2006. Pectic enzymes produced *in vitro* and *in vivo* by *Pectobacterium carotovorum* subsp. *carotovorum* isolated from cabbage in Egypt. Proceedings of the 11th International Conference on Plant Pathogenic Bacteria. 10-14 July 2006, Edinburgh, Scotland, UK. Abstract, pp.145.
- Osman, M.E., N.M. Sidkey, H.H. El-Hendawy and M.M. Attwa. 2005. Production, purification, and characterization of protease produced by *Bacillus mycoides* on artichoke waste. *N. Egypt. J. Microbiol.* 11: 63-77.

FUNGAL DISEASES

- Alves, A., A. Correia and A.J.L. Phillips. 2006. Multiple gene genealogies and morphological data support *Diplodia cupressi* sp. nov., previously recognized as *D. pinea* f. sp. *cupressi*, as a distinct species. *Fungal Diversity* (In Press).
- Alves, A., A.J.L. Phillips, I. Henriques and A. Correia. 2005. Evaluation of amplified ribosomal DNA restriction analysis (ARDRA) as a method for the identification of *Botryosphaeria* species. *FEMS Microbiology Letters* 245: 221-229.
- Boughalleb, N. and M. El Mahjoub. 2005. Effet de la solarisation sur *Phytophthora nicotianae* var. *parasitica* responsable d'un syndrome associant nécroses racinaires et flétrissement sur piment (*Capsicum annum* L.) en Tunisie. *Tropicultura* 23 (3): 169-175.
- Boughalleb, N. and M. El Mahjoub. 2005. Détection des races 0, 1 et 2 de *Fusarium oxysporum* f. sp. *niveum* et leur distribution dans les régions de production de la pastèque en Tunisie. *Bulletin OEPP* 35 (2): 253-260.
- Boughalleb, N. and M. El Mahjoub. 2006. Determination of *Fusarium solani* f. sp. *cucurbitae* and *F. oxysporum* f. sp. *niveum* densities in Tunisian soils and their effect on watermelon seedlings. *Phytoparasitica* 34(2): 149-158.
- Boughalleb, N. and M. El Mahjoub. 2006. Frequency of *Fusarium oxysporum* f. sp. *niveum* and *F. solani* f. sp. *cucurbitae* from watermelon seeds and their effect on disease incidence. *Phytopathologia Mediterranea* (submitted)
- Boughalleb, N. and M. El Mahjoub. 2006. *In vitro* determination of *Fusarium* spp. infection on watermelon seeds and their localization. *Plant Pathology Journal* 2: 178-182.
- Boughalleb, N. and M. El Mahjoub. 2006. Watermelon sudden decay in Tunisia: Identification of pathogenic fungi and determination of primary agents. *Pakistan Journal of Biological Science* 9 (6): 1095-1103.
- Boughalleb, N., A. Moulahi and M. El Mahjoub. 2006. Effect of four fungicides on development and control of *Phytophthora* on apple tree *in vitro* and *in vivo*. *International Journal of Agricultural research* 1(6): 582-589.

- Boughalleb, N., A. Moulahi and M. El Mahjoub. 2006. Variability in pathogenicity among Tunisian isolates of *Phytophthora cactorum* as measured by their ability to cause crown rot on four apple cultivars and MM106 roostock. *Journal of Agronomy* 5(2): 321-325.
- Boughalleb, N., H. Boudegga, N. Barbouche, M.H. Ben Hamouda and M. El Mahjoub. 2006. Antifungal activity of some essential oils to watermelon *Fusarium oxysporum* f. sp. *niveum* and *F. solani* f. sp. *cucurbitae*. *Revue de l'INAT* (sous presse).
- Boughalleb, N., J. Armengol and M. El Mahjoub. 2005. Detection of races 1 and 2 of *Fusarium solani* f.sp. *cucurbitae* and their distribution in watermelon fields in Tunisia. *Journal of Phytopathology* 153 (3): 162-168.
- Boughalleb, N., M. Souli, B. Karbous and M. EL Mahjoub. 2006. Identification et répartition géographique des fusarioses affectant l'épi et le pied du blé dans certaines régions du Nord en Tunisie. *Bulletin OEPP* (sous presse).
- Boughalleb, N., N. Tarchoun and W. Dallagi. 2006. Effect of fungicides on in vitro infestation level of radish, carrot and pepper seeds. *Plant Pathology Journal* (in press).
- Boughalleb, N., N.Tarchoun, A. El Mbarki and M. El Mahjoub. 2006. Resistance evaluation of nine cucurbit rootstocks and grafted watermelon (*Citrullus lanatus* L.) varieties against *Fusarium* wilt and *Fusarium* crown and root rot. *Journal of Plant Sciences* (in press).
- Ćosić, J., D. Jurković and K. Vrandečić. 2006. Influence of environmental factors on deoxynivalenol content in wheat flour. *Cereal Research Communications* 34(1): 17-20.
- Ćosić, J., D. Jurković, K. Vrandečić and J. Poštić. 2006. Epidemijska pojava *Sclerotinia sclerotiorum* (Lib.) De Bary na suncokretu u 2005. godini (OCCURENCE OF *Sclerotinia sclerotiorum* (Lib.) De Bary ON SUNFLOWER IN 2005) . *Glasilo biljne zaštite* 4:224-228.
- Ćosić, J., D. Jurković, K. Vrandečić and T. Duvnjak. 2005. Pojava bolesti na stabljikama suncokreta u istočnoj Hrvatskoj (OCCURRENCE OF DISEASES ON SUNFLOWER STEMS IN EASTERN CROATIA). *Poljoprivreda* 11(1):11-16.
- Ćosić, J., K. Vrandečić, D. Novoselović, G. Drezner and D. Jurković. 2006. Influence of planting density and planting date on the occurrence of *Fusarium* root rot on winter wheat – a phytosanitary food chain problem. *Cereal Research Communications* 34(1):769-772.
- Ćosić, J., K. Vrandečić, N. Velić, H. Pavlović and D. Jurković. 2006. *Fusarium* toxins in different flours collected on the Croatian market over seasons 2002/2004. Proceedings of 3rd International Congress Flour-Bread '05, Opatija, 280-284.
- Crous, P.W., B. Slippers, M.J. Wingfield, J. Rheeder, W.F.O. Marasas, A.J.L. Phillips, A. Alves, T. Burgess, P. Barber and J.Z. Groenewald. 2006. Phylogenetic lineages in the *Botryosphaeriaceae*. *Studies in Mycology* 55: 235–253.
- Duvnjak, T., D. Jurković, J. Ćosić, K. Vrandečić and A. Sudarić. 2005. Soybean seed decay in Croatia. 5th ISTA-SHC Symposium, Angeres, France, Book of Abstracts 15-16.
- El Hadrami, A., A. El Idrissi-Tourane, M. El Hassni, F. Daayf and I. El Hadrami. 2005. Toxin-based *in vitro* selection and its potential application to date palm for resistance to the bayoud *Fusarium* wilt. A REVIEW. *C.R. Biologies* 328: 732-744.
- El Hassni, M., J.L. Verdeil and I. El Hadrami. 2005. An hypoaggressive *Fusarium oxysporum* isolate induces polyphenoloxidase activity in the date palm seedlings allowing their protection against the Bayoud disease. *Plant Pathology Journal* 4(2): 96-102.
- Harzallah-Skhiri F. et N. Boughalleb. 2005. Improving germination percentage of *Prosopis farcta* (Banks et Soland.) Eig. Seeds by chemical and fungicide treatments. *Revue de l'INAT* 20 (1), 33-53.

- Jurković, D., J. Čosić, K. Vrandečić, G. Drezner and M. Josipović. 2006. Influence of sowing date on the occurrence of Fusarium head blight on wheat – a phytosanitary food safety problem. *Cereal Research Communications* 34(1):805-807.
- Latinovic, J., J.C. Batzer, M. Gleason and K. Duttweiler. 2006. First report of sooty blotch and flyspeck fungi on plum in the U.S.A. *Phytopathology* 96 (6): S64-65.
- Latinović, N., Z. Vučinić and J. Latinović. 2005. *Phaeoacremonium aleophilum* one of the causal agents of esca disease of grapevine in Montenegro. 7th Conference on Plant Protection. Soko Banja, 15 - 18. November. Book of Abstracts, 125-126.
- Luque, J., S. Martos and A.J.L. Phillips. 2005. *Botryosphaeria viticola* sp. nov on grapevines: a new species with a *Dothiorella* anamorph. *Mycologia* 97: 111–1121.
- Mifsud, D. and A. Porta-Puglia. 2005. Marda ġdida fuq it-tadam tas-serer f' Malta. *Biedja u Sajd, Ġunju* 2005 (6), 4-5.
- Pace-Lupi, T., A. Porta-Puglia, A. Ippolito and F. Nigro. 2006. First record of *Verticillium dahliae* on Potato in Malta. *Plant Disease* 90: 1108.
- Phillips, A.J.L., A. Alves, A. Correia and J. and Luque. 2005. Two new species of *Botryosphaeria* with brown, one-septate ascospores and *Dothiorella* anamorphs. *Mycologia* 97: 513–529.
- Phillips, A.J.L., J. Rumbos, A. Alves and A. Correia. 2005. Morphology and phylogeny of *Botryosphaeria dothidea* causing fruit rot of olives. *Mycopathologia* 159: 433–439.
- Phillips, A.J.L., P. Oudemans, A. Correia and A. Alves. 2006. Characterisation and epitypification of *Botryosphaeria corticis*, the cause of blueberry stem canker. *Fungal Diversity* 21: 141–155.
- Porta-Puglia, A. and D. Mifsud. 2005. A severe outbreak of crown and root rot of tomato caused by *Fusarium oxysporum* f. sp. *radicis-lycopersici* in Malta. *Phytopathologia Mediterranea* 44: 319-321.
- Porta-Puglia, A. and D. Mifsud. 2005. First record of *Colletotrichum coccodes* on potato in Malta. *Journal of Plant Pathology* 87: 245.
- Porta-Puglia, A. and D. Mifsud. 2005. First record of *Colletotrichum acutatum* on potato in Malta. *Journal of Plant Pathology* 88: 224.
- Porta-Puglia, A. and D. Mifsud. 2005. First record of *Fusarium oxysporum* f. sp. *radicis-lycopersici* on tomato in Malta. *Journal of Plant Pathology* 87: 150.
- Porta-Puglia, A. and D. Mifsud. 2005. First record of Powdery scab caused by *Spongospora subterranea* subsp. *subterranea* on potato in Malta. *Journal of Plant Pathology* 88: 223.
- Porta-Puglia, A. and D. Mifsud. 2005. First record of *Verticillium dahliae* on olive in Malta. *Journal of Plant Pathology* 87: 149.
- Riccioni L., M. Valvassori, G. Di Giambattista, A. Porta-Puglia. 2006. Emmer wheat, a potential new host of *Tilletia indica*. *European Journal of Plant Pathology (in press)*.
- Rodeva, R. and J. Gabler. 2006. Fungal diseases of caraway (*Carum carvi* L.) in Bulgaria. *Phytologia Balcanica* (in press)
- Rodeva, R., G. Kosturkova and A. Mehandjiev. 2005. Searching for resistance to ascochyta blight in pea (*Pisum sativum* L.) by conventional and biotechnological methods and approaches. *Plant Science (Sofia)* 42 (3): 226-230.
- Santos, C., S. Fragoeiro and A.J.L. Phillips. 2005. Physiological response of grapevine cultivars and a rootstock to infection with *Phaeoacremonium* and *Phaeomoniella* isolates: an in vitro approach using plants and calluses. *Scientia Horticulturae* 103: 187–198.
- Santos, C., S. Fragoeiro, H. Oliveira and A.J.L. Phillips. 2006. Response of *Vitis vinifera* L. plants inoculated with *Phaeoacremonium angustius* and *Phaeomoniella chlamydospora* to thiabendazole, resveratrol and sodium arsenite. *Scientia Horticulturae* 107: 131–136.

- Santos, C., S. Fragoeiro, H. Valentim and A.J.L. Phillips. 2006. Phenotypic characterisation of *Phaeoacremonium* and *Phaeomoniella* strains isolated from grapevines: enzyme production and virulence of extra-cellular filtrate on grapevine calluses *Scientia Horticulturae* 107: 123–130.
- Vrandečić, K., D. Jurković, T. Duvnjak and J. Ćosić. 2005. Effect of *Diaporthe/Phomopsis* species on soybean seed germination. 5th ISTA-SHC Symposium, Angeres, France, Book of Abstracts 31-32.
- Vrandečić, K., J. Ćosić, L. Riccioni, T. Duvnjak and D. Jurković. 2005. Isolation of *Diaporthe phaseolorum* var. *caulivora* from *Abutilon theophrasti* in Croatia. *Plant Pathology* 54 (4):576.

VIRUSES/ VIRIIDS/ PHYTOPLASMAS

- Abou Ghanem-Sabanadzovic, N., H. Abbadi, M. Al Rwahnih, M.A. Castellano and A. Myrta. 2005. Identification and partial characterisation of a Palestinian Apricot latent virus isolate from apricot. *Journal of Plant Pathology* 87(1): 33-37.
- Al Rwahnih, M., D. Boscia, O. Potere, A. Myrta and V. Savino. 2006. Production and characterization of monoclonal antibodies to *Apple chlorotic leaf spot virus*. Proceedings of the XXth International Symposium on Virus and Virus-like Diseases of Temperate Fruit Crops and XIth International Symposium on Small Fruit Virus Diseases. p 87 (abstract).
- Bekele, B., S.G. Kumari, K. Ali, A. Yusuf, K.M. Makkouk, M. Aslake, M. Ayalew, G. Girma and D. Hailu. 2005. Survey for viruses affecting legume crops in Amhara and Oromia Regions in Ethiopia. *Phytopathologia Mediterranea* 44: 235-246.
- Belli, G. and P.A. Bianco. 2005. Storia e diffusione dei giallumi della vite in Italia. In "Flavescenza dorata e altri giallumi della vite in Toscana e in Italia" – *Quaderno ARSIA*, 3, 11-13, 2005.
- Bianco, P.A., A. Fanigliulo, S. Comes, P. Casati, A. Crescenzi and G. Belli. 2005. Characterisation of Plum Pox Virus (PPV) isolates associated with sharka infection in Northern and Southern Italy. *Phytopathol. Pol.*, 36: 17-24.
- Birişik, N., A. Myrta, M. Hassan and S. Baloğlu. 2006. A preliminary account on apple viruses in Eastern Turkey. Proceedings of the XXth International Symposium on Virus and Virus-like Diseases of Temperate Fruit Crops and XIth International Symposium on Small Fruit Virus Diseases p 102 (abstract).
- Casati, P., P.A. Bianco, A. Fanigliulo, S. Comes, A. Crescenzi and G. Belli. 2005. Further data on molecular characterization of PPV-M in Northern Italy. *Journal of Plant Pathology* 87 (4): 276.
- Chalack, L., A. El Bitar and E. Choueiri. 2005. Assainissement de différentes espèces d'intérêt au Liban infectés par des virus ou de phytoplasmes. Animation Scientifique Régionale : Biotechnologies et maîtrise de la qualité des productions végétales au Moyen-Orient, USEK, Beirut, 2005, 6.
- Chalack, L., A. Elbitar, R. Rizk, E. Choueiri, P. Salar and J.M. Bové. 2005. Attempts to eliminate *Candidatus phytoplasma phoenicium* from infected Lebanese almond varieties by tissue culture techniques combined or not with thermotherapy. *European Journal of Plant Pathology* 112: 85-89.
- Choueiri E. 2005. Les techniques moléculaires et leur rôle potentiel dans les schémas de certification des cultures fruitières. Animation Scientifique Régionale : Biotechnologies et maîtrise de la qualité des productions végétales au Moyen-Orient, USEK, Beirut, 2005, 8.

- Choueiri, E., A. Myrta, M.C. Herranz, C. Hobeica, M. Digiario and V. Pallas. 2006. First report of *American plum line pattern virus* in Lebanon. *Journal of Plant Pathology* 88(2): 227.
- Choueiri, E., F. Jreijiri, P. Chlela, G. Louvet and P. Lecomte. 2006. Occurrence of grapevine declines and first report of Black Dead Arm associated with *Botryosphaeria obtusa* in Lebanon. *Plant Disease* 90: 115.
- Choueiri, E., R. Massad, F. Jreijiri, J.L. Danet, P. Salar, J.M. Bové and X. Foissac. 2005. First report of a 16SrII Group Phytoplasma associated with shoot proliferation of a Cactus (*Opuntia monacantha*) in Lebanon. *Plant Disease* 89: 1129.
- Choueiri, E., S. El Zammar, F. Jreijiri, R. Amil, A.T. Adib Saad, L. Hanna, S. Ibrahim and C. Varveri. 2006. Incidence and distribution of virus diseases of potato in Lebanon with observations on other major diseases. *Ninth Arab Congress of Plant Protection, Damascus, Syria* (In Press).
- Delic, D., M. Martini, P. Ermacora, L. Carraro and A. Myrta. 2005. First report of fruit tree phytoplasmas and their psyllid vectors in Bosnia and Herzegovina. *Journal of Plant Pathology* 87(2): 149-150.
- Delic, D., M. Martini, P. Ermacora, L. Carraro and A. Myrta. 2006. First report of grapevine yellows phytoplasma in Bosnia and Herzegovina. *Journal of Plant Pathology* 88 (2): 226.
- Delic, D., M. Martini, P. Ermacora, L. Carraro and A. Myrta. 2006. Identification of fruit tree Phytoplasmas and their vectors in Bosnia and Herzegovina. Proceedings of the XXth International Symposium on Virus and Virus-like Diseases of Temperate Fruit Crops and XIth International Symposium on Small Fruit Virus Diseases p 121 (abstract).
- Fadel, C., M. Digiario, E. Choueiri, T. El Beaino, M. Saponari, V. Savino and G.P. Martelli. 2005. On the presence and distribution of olive viruses in Lebanon. *Bulletin OEPP/EPPO Bulletin* 35: 33-36.
- Finetti-Sialer, M., J. Mërkuri, G. Tauro, A. Myrta and D. Gallitelli. 2005. Viruses of vegetable crops in Albania. *EPPO Bulletin* 35: 491-495.
- Glasa, M., S. Paunovic, D. Jevremovic, A. Myrta, S. Pittnerová and T. Candresse. 2005. Analysis of recombinant *Plum pox virus* (PPV) isolates from Serbia confirms the genetic homogeneity and supports a regional origin of the PPV-Rec subgroup. *Archives of Virology* 150(10): 2051-2060.
- Gumus, M., I. Can Paylan, S. Matic, A. Myrta and S. Erkan. 2006. Survey for viruses and viroids of peach in Western Anatolia (Turkey). Proceedings of the XXth International Symposium on Virus and Virus-like Diseases of Temperate Fruit Crops and XIth International Symposium on Small Fruit Virus Diseases p 90 (abstract).
- Hassan, M., A. Myrta and J. Polak. 2006. Simultaneous detection and identification of four pome fruit viruses by one-tube pentaplex RT-PCR. *Journal of Virological Methods* 133: 124-129.
- Hassan, M., J. Polak, F. Paprštein and A. Myrta. 2006. Detection and distribution of four fruit viruses in germplasm collection in Czech Republic by pentaplex RT-PCR. Proceedings of the XXth International Symposium on Virus and Virus-like Diseases of Temperate Fruit Crops and XIth International Symposium on Small Fruit Virus Diseases (submitted).
- Herranz, M.C., M. Al Rwahnih, J.A. Sanchez-Navarro, E. Choueiri, A. Myrta and V. Pallás. 2006. The coat proteins and movement Proteins of *American plum line pattern virus* from different geographic origin showed a low variability. Proceedings of the XXth International Symposium on Virus and Virus-like Diseases of Temperate Fruit Crops and XIth International Symposium on Small Fruit Virus Diseases p 25 (abstract).

- Ismaeil, F., K. Al-Jabor, A. Myrta, M.J. Mando, E. Al-Saadoun, M. Hassan and S. Al-Chaabi. 2006. Viruses of pome fruit trees in Syria. *EPPO Bulletin* (in press)
- Kumari, S.G. and K.M. Makkouk. 2005. Occurrence and management of *Faba bean necrotic yellows virus* in food legume crops. 15th Australasian Plant Pathology Society Conference, Geelong, Victoria, Australia, 26-29 September 2005. Page No. 303.
- Kumari, S.G., I. Muharram, K. M. Makkouk, A. Al-Ansi, R. El-Pasha, W. A. Al-Motwkel, A. Haj Kassem. 2006. Identification of viral diseases affecting barley and bread wheat crops in Yemen. *Australasian Plant Pathology*, 35: 563-568.
- Kumari, S.G., I. Muharram, R. El-Pasha, W.A. Al-Motwkel and A. Al-Ansi. 2005. First report of viruses that naturally infect alfalfa and fenugreek; and of *Beet western yellows virus* that infects legume crops in Yemen. *Arab Journal of Plant Protection*, 23(1): 57.
- Kumari, S.G., K.M. Makkouk and N. Attar. 2006. An improved antiserum for sensitive serologic detection of Chickpea chlorotic dwarf virus. *Journal of Phytopathology* 154(3): 129-133.
- Laimer, M., D. Mendonça, A. Myrta, D. Boscia and H. Katinger. 2005. Molecular characterization of Austrian PPV isolates. *Phytopathologia Polonica* 36: 25-32.
- Makkouk, K.M., R.A.C. Jones, F. Morales and S.G. Kumari. 2005. Management of viruses in food legumes. Page 29. In: Abstract book of 4th International Food Legumes Research Conference: Food legumes for Nutritional Security and Sustainable Agriculture, New Delhi, India, October 18-22, 2005. M.C. Kharkwal (Editor). 502 pp.
- Mandic, B., S. Matić, W. Jelkmann and A Myrta. 2005. First report of three filamentous viruses from cherry in Serbia. *Journal of Plant Pathology* 87 (3): 243-246.
- Matić, S., M. Al-Rwahnih and A. Myrta. 2005. Diversity of Plum pox virus isolates in Bosnia and Herzegovina. *Plant Pathology*. Published on line. Doi: 10.1111/j.1365-3059.2005.01309.x
- Matić, S., M. Al-Rwahnih and A. Myrta. 2005. Occurrence of stone fruit viroids in Bosnia and Herzegovina *Phytopathologia Mediterranea* 44: 285-290.
- Matić, S., M. Al-Rwahnih, G. Durić and A. Myrta, 2005. Distribution of *Plum pox virus* in Bosnia and Herzegovina. *Phytopathologia Polonica* 36: 9-15.
- Matić, S., M. Al-Rwahnih, G. Durić and A. Myrta. 2006. Viruses of stone fruit trees in Bosnia and Herzegovina. Proceedings of the XXth International Symposium on Virus and Virus-like Diseases of Temperate Fruit Crops and XIth International Symposium on Small Fruit Virus Diseases p 94 (abstract).
- Michelutti, R., A. Myrta and V. Pallas. 2005. A Preliminary account on the Sanitary status of stone fruits at the Clonal Genebank at Harrow, Canada. *Phytopathologia Mediterranea*. 44: 71-74.
- Michelutti, R., A. Myrta, A. Kalanina and D.C.W. Brown. 2006. Development of a plant virus assay for Prunus germplasm at the Canadian Clonal Genebank. Proceedings of the XXth International Symposium on Virus and Virus-like Diseases of Temperate Fruit Crops and XIth International Symposium on Small Fruit Virus Diseases p 152 (abstract).
- Michelutti, R., M. Luffman and A. Myrta. 2006. Sanitary status of the Canadian Clonal Genebank Repository. Proceedings of the XXth International Symposium on Virus and Virus-like Diseases of Temperate Fruit Crops and XIth International Symposium on Small Fruit Virus Diseases p 151 (abstract).
- Myrta, A., A. Varga and D. James. 2006. The complete genome sequence of an El Amar isolate of Plum pox virus (PPV) and its phylogenetic relationship to other PPV strains. *Archives of Virology*. Published on line: 9 January 2006. DOI: 10.1007/s00705-005-0703-x.

- Myrta, A., B. Di Terlizzi, T. Amenduni, D. Bassi and V. Savino. 2006. Evaluation of apricot selections for resistance to plum pox virus (PPV). *Acta Horticulturae* 701: 451-454.
- Myrta, A., M. Al-Rwahnih and V. Savino. 2005. Presence of a *Plum pox virus* recombinant in Apulia (Southern Italy). *Journal of Plant Pathology* 87(2): 127-130.
- Myrta, A., M. Martini, L. Susuri, H. Susuri, dhe L. Carraro. 2006. First record of Apple proliferation and Pear Decline phytoplasmas in Kosovo. *Journal of Plant pathology* 88 (1): 121-125.
- Myrta, A., V. Pallás, B. Di Terlizzi and V. Savino. 2006. Viruses and viroids of apricot in the Mediterranean: incidence and biodiversity. *Acta Horticulturae* 701: 409-417.
- Myrta, M. Martini, L. Susuri, H.Sh. Susuri and L. Carraro. 2006. First report of apple proliferation and pear decline phytoplasmas in Kosova. *Journal of Plant Pathology* 88 (1): 121-125
- Quaglino, F., A. Zorloni, P. Casati, P.A. Bianco and G. Belli. 2005. Presenza di differenti isolati di “*Ca. Phytoplasma Solani*” associati al legno nero (LN) nella vite in Lombardia, Toscana e Marche. *Petria*, 15: 213-215.
- Sánchez-Navarro, J.A., F. Aparicio, M.C. Herranz, A. Minafra, A. Myrta and V. Pallás. 2005. Simultaneous detection and identification of eight stone fruit trees viruses by one-step RT-PCR. *European Journal of Plant Pathology* 111(1): 77-84.
- Sipahioglu, H.M., D. Demir, A. Myrta, M. Rwahnih, B. Polat, L. Schena, M. Usta, A. Akkopru, M. Selcuk and A. Ippolito, 2006. Present status of viroid, phytoplasma and fungal diseases of stone fruit trees in Eastern Anatolia, Turkey. *New Zealand Journal of Crop and Horticultural Science* 34: 1-6.
- Škorić, D., M. Al Rwahnih and A. Myrta. 2006. First record of Peach latent mosaic viroid in Croatia. Proceedings of the XXth International Symposium on Virus and Virus-like Diseases of Temperate Fruit Crops and XIth International Symposium on Small Fruit Virus Diseases p 76 (abstract).
- Usta, M., H.M. Sipahioglu, Ocak M. and A. Myrta, 2006. Detection of Apricot latent virus and Plum bark necrosis stem pitting-associated virus by RT-PCR in the Eastern Anatolia. Proceedings of the XXth International Symposium on Virus and Virus-like Diseases of Temperate Fruit Crops and XIth International Symposium on Small Fruit Virus Diseases p 31 (abstract).
- van Leur, A.G. and S.G. Kumari. 2005. Bean yellow mosaic virus studies in faba bean. 15th Australasian Plant Pathology Society Conference, Geelong, Victoria, Australia, 26-29 September 2005. Page No. 311.
- Zorloni, A., B. Manachini, S. Prati, P.A. Bianco and G. Belli. 2006. Indagini sulla diffusione di GFLV (grapevine fanleaf virus) e di ArMV (arabis mosaic virus) in un vigneto dell’Oltrepò pavese. *Atti I° Conv. Naz. Viticoltura, Ancona*, 21-23 giugno 2006 ; p. 59 (abs).
- Zorloni, A., S. Prati, P.A. Bianco and G. Belli. 2006. Transmission of grapevine virus A and grapevine leafroll associated virus 3 by *Heliococcus bohemicus* Sulc. *Journal of Plant Pathology*, 88 (2): in press.

BIOLOGICAL CONTROL

- Arfaoui A., B. Sifi, A. Boudabous, I. El Hadrami and M. Chérif, 2006. Identification of *Rhizobium* isolates possessing antagonistic activity against *Fusarium oxysporum* f.sp. *ciceris*, the causal agent of Fusarium wilt of chickpea. *Journal of plant Pathology* (In press).

- Arfaoui, A., B. Sifi, A. Boudabbous, I. El Hadrami and M. Chérif. 2006. Effects of Rhizobium isolates on isoflavonoids contents in chickpea plants infected with *Fusarium oxysporum* f.sp. *ciceris*. *Phytopathologia Mediterranea* (In press).
- Arfaoui, A., B. Sifi, M. El Hassni, I. El Hadrami, A. Boudabbous and M. Cherif. 2005. Biochemical analysis of chickpea protection against *Fusarium* wilt afforded by two *Rhizobium* isolates. *Plant Pathology Journal* 4(1): 35-42.
- Boughalleb, N., N. Débbabi, H. Ben Janet, Z. El Mighri and M. El Mahjoub. 2005. Antimicrobial activity of volatile components extracted from leaves, stems and flowers of four wild plants in Tunisia against plant pathogenic fungi. *Phytopathologia Mediterranea* 44: 307-312.
- Bouizgarne, B., M. Barakate, I. El Hadrami and Y. Ouhdouch. 2006. Novel production of isochainin by a strain of *Streptomyces* sp. isolated from rhizosphere soil of the indigenous Moroccan endemic plant *Argania spinosa* L. *World Journal of Microbiology and Biotechnology* 22: 423-429 .
- Majida El Hassni, A.E.H., F. Daayf, M. Chérif, E.A. Barka and I. El Hadrami. 2006. Biological control of Bayoud disease in date palm: selection of microorganisms inhibiting the causal agent and inducing defense reactions. *Environmental and Experimental Botany* (in press).