Proceedings of the Fifteenth Conference of the International Organization of Citrus Virologists

Edited by
N. Duran-Vila • R. G. Milne • J. V. da Graça

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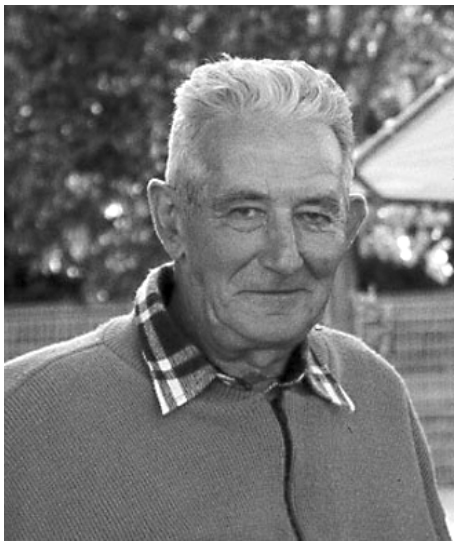
Dedicated to Robert Vogel (1929-2002)



Robert Vogel was born in Lyon, France in September 1929. After completing his secondary education, he entered the prestigious "National School for Horticulture", located on the grounds of the Château de Versailles, receiving the diploma of Ingéneur Horticole. Soon after, in the early 1950s, he began his professional career in horticulture in Morocco. Research on citrus there at that time was under the direction of the French Institute of Tropical fruit and Citrus Research (IRFA), and when this organization decided to develop citrus in Corsica, Robert was asked to join the new experiment station in San Giuliano in May 1959. He worked there until his retirement in May 1990.

He devoted his life to the sanitary improvement of citrus in Corsica. Vogel initially surveyed all the orchards in Corsica for virus and virus-like diseases, and began to index suspicious trees on indicator plants. With the help of Lucien Sire and Dominique Rossi, he improved indexing techniques, adopting new technologies as they were developed such as ELISA and spiroplasma culturing. Together with Maryse Nicoli and Albert Dubois, he established the shoot tip grafting technique in Corsica. In 1988, he proudly reported that the station had a citrus collection of over 500 species free of virus and virus-like diseases.

With the move away from the sour orange rootstock to other rootstocks, especially trifoliate orange, in Corsica because on concerns about tristeza, he became involved in many studies on exocortis. One of his last publications concerned the influence of exocortis on the growth and production of Clementines on 39 trifoliate lines. The last experiment he initiated in 1989 in collaboration with scientists from IVIA in Spain, involved the inoculation Clementines on trifoliate with 31 combinations of different viroids involving 500 trees. He had hoped to assist with the analysis of the results in 2002, but poor health prevented this.

In 1963 Robert noticed some strange stem pitting symptoms on Tarocco sweet orange trees grafted on sour orange. This led to the discovery of a new graft-transmissible disease, cristacortis, which was found to be widespread in Mediterranean countries. Cristacortis was the subject of his PhD thesis which he defended at the University of Bordeaux in December 1973.

Robert was an active member of IOCV, attending all but one conference between 1963 and 1986. He authored over 100 papers, 10 of them in IOCV Proceedings. He organized the post-conference tour of Corsica in 1966, and in 1975 was elected Chairman, but declined the position because of his lack of fluency in English. He was co-editor of two editions of the IOCV slide collection, and collaborated in the compilation of the exhaustive bibliography list of citrus virus publications up to 1975.

Robert passed away on 18 December, 2002, 14 years after losing his wife Madeleine, and is survived by their three children. Despite his reputation as a rough person, he was straightforward and loyal. His name will forever remain associated with Cristacortis, with Corsica and with Citrus.

So long, Robert.

J. M. Bové

PREFACE

The 15th Conference of the International Organization of Citrus Virologists was held in Paphos, Cyprus, November 11 to 16, 2001. The conference was held in the Amathus Beach Hotel, and began with a welcome cocktail on the first evening. Seventy delegates from 25 countries attended the conference. At the opening ceremony on November 12, delegates were welcomed to Cyprus by the Chairman of the Conference Organizing Committee, Dr. Nicolaos Ioannou. This was followed by addresses from the Director of the Agricultural Research Institute, Dr. Ioannis Papadopoulos, and the Chairman of the IOCV, Dr. Patricia (Broadbent) Barkley. The Permanent Secretary to the Minister of Agriculture, Natural Resources and Environment, Mr. Makis Constantinides, then gave the Opening Address.

Day 1 was devoted entirely to papers on *Citrus tristeza virus*. Sixteen oral papers, including an invited paper delivered by Dr. Moshe Bar-Joseph, were presented, and in the evening nine posters were displayed. Delegates enjoyed lunch at the Theophano Hotel offered by the organizing committee. On Day 2, another 16 oral papers on tristeza were given in the morning, and a further 9 posters displayed during the evening poster session, making a total of 50 papers dealing with one virus. During the afternoon, the Bye-Laws Committee met, followed by the Business Meeting, during which an invitation to hold the 16th Conference in Monterrey, Mexico, with a post-conference tour to Veracruz, from Dr. Mario Rocha-Peña, was made on his behalf by Dr. John da Graça who also invited the IOCV to make a pre-conference tour of the Lower Rio Grande Valley of Texas.

On Day 3, delegates were taken on a field trip to the citrus nursery and propagation blocks of the Department of Agriculture at Koulkia, and the Experimental Station of the Agricultural Research Institute at Akhelia where the citrus pre-basic block was viewed, and rootstock, variety, irrigation and nutrition trials were observed; symptoms of Mal Secco and *Phytophthora* were pointed out. After refreshments, delegates departed for Lemesos (Limasol), stopping on the coastal highway at "Petra to Romoiu", the Birthplace of Aphrodite. Then they traveled to Phassouri farm where the owners welcomed them, described the history and activities and showed delegates an Ortanique block with *Citrus variegation virus* symptoms. Following this stop, delegates were taken to Lanitis farm where they saw a Valencia block on sour orange with trees showing severe tristeza decline, and trees with Mal Secco. They were then treated to a delicious lunch offered by the Pancyprian Association of Packers and Exporters of Citrus and Grapes.

Day 4 was taken up with oral presentations and posters on viroids, with an invited paper by Dr. Joseph Semancik, in the morning, a session on stubborn

after lunch, and one on *Citrus psorosis virus* late afternoon. Posters on psorosis, other viruses, surveys and certification were displayed in the evening. On the last day, the morning was spent on papers on viruses other than CTV and CPsV, blight, citrus variegated chlorosis and witches' broom of lime, and the afternoon session covered certification programs. The closing ceremony then took place, during which Dr. Barkley warmly thanked the organizers for an excellent conference and associated programs, and then handed the gavel over to the incoming chairman, Dr. Pedro Moreno. He ended the meeting with a short address.

The IOCV banquet was held on the evening of Day 4 at the Aloe Hotel. A program of Cypriot dancing was provided, which ended with several participants joining the dancers. The IOCV Chairman, Dr. Barkley, announced the winners of the Wallace Award for the best paper presented at the 14th conference, Drs Owens, Thompson, Feldstein and Garnsey. She then announced that Dr. John da Graça had been elected chairman for the 2004-7 term.

About 50 delegates and accompanying persons stayed on in Cyprus for the optional three-day tour. This began on November 17 at the historic mosaics of Paphos. They then traveled up into the Troodos mountains, stopping at the tomb of Archbishop Makarios III, the first President of Cyprus, and visited the Kykkos Monastery. After a late lunch in Troodos, the bus traveled to Lemesos where delegates spent the night. On the second day, a bus tour of the city was undertaken, and then the ancient ruined city of Amathus was visited. The experiment station at Zyghi was the next stop, where the effects of viroids on lemons, and the virus-free collection of grapevines were seen. Lunch was eaten at a seafood restaurant in Zyghi, after which delegates traveled to the capital of Cyprus, Lefkosia (Nicosia) to spend the night. Dinner, with music and dancing, was enjoyed at a traditional taverna, and the birthday of the secretary of the organizing committee, Dr. Anastasia Kyriakou, was celebrated. The third day began with a tour of the city, and then a visit to the headquarters of the Agricultural Research Institute was made. After a welcome from the Director, Dr. Papadopoulos, the delegates toured the greenhouses and laboratories. They then departed for Larnaka airport either for the post-conference tour in Egypt, or for homeward flights. A gift of appreciation was presented to Dr. Kyriakou from the delegates at the airport. Those with later departures enjoyed a lunch in the city.

The post-conference tour to Egypt was attended by only five delegates from, plus the Egyptian hosts. Day 1 began with a visit to the Maghrebi farm in the Tahrir area, and observed laboratory and screenhouse facilities for maintaining budwood sources for producing pathogen-free plants. Delegates also visited a modern packinghouse for different fruits and vegetables. On the second day, the El-Sherouq farm in the same area was visited to see a nursery, and a round table discussion was held there on certification and the production of healthy plants. On Day 3, Benha farm in the Delta region was visited, followed by a stop at the Bahteem plant disease diagnosis and repository facilities, and held discussions with officials of the Egyptian Ministry of Agriculture in charge of launching a citrus certification scheme supported by GTZ. Participants enjoyed the hospitality of their hosts, and expressed their thanks to Alberto Camacho for arranging the tour, including many interesting tourist sites in and around Cairo.

All full length papers were reviewed by two referees. We express our thanks to the following who served as referees: G. P. Accotto, A. Appiano, D. Bosco, P. Caciagli & P. Roggero (*IFA, CNR, Torino, Italy*), D. Alioto (*Univ.*

Napoli, Naples, Italy), M. Bar-Joseph & B. Raccah (*Volcani Center, Bet-Dagan, Israel*), J. M. Bové & M. Garnier (*INRA/Univ. Bordeaux, France*), P. Broadbent (*Auscitrus, Mulgoa, NSW, Australia*), R. H. Brlansky, K. S. Derrick, S. M. Garnsey, R. F. Lee & L. W. Timmer (*CREC, UFl, Lake Alfred, FL, USA*), M. Cambra, J. Guerri, P. Moreno & L. Navarro *(IVIA, Moncada, Spain*), J. A. Dodds, C. N. Roistacher & J. S. Semancik (*UC, Riverside, CA, USA*), M. L. Garcia (*IBBM, UNLP, La Plata, Argentina*), C. M. Herron & T. E. Mirkov (*Texas A & M Univ., Weslaco, TX, USA*), M. E. Hilf (*USDA-ARS, Ft. Pierce, FL, USA*), M. J. Jeger (*Agric. Univ., Wageningen, Netherlands*), E. W. Kitajima (*USP, São Paulo, Brazil*), D.-E. Lesemann (*IBP, Braunschweig, Germany*), M. A. Machado (*Centro APTA Citros, Cordeirópolis, SP, Brazil*), R. A. Owens (*USDA-ARS, Beltsville, MD, USA*), V. Pallás (*Univ. Politécnica de Valencia, Spain*), V. Savino (*Univ. Bari, Italy*), M. Skaria (*TAMUK Citrus Center, Weslaco, TX, USA*), S. P. van Vuuren (*ITSC, Nelspruit, South Africa*), and R. K. Yokomi (*USDA, ARS, PWA, Parlier, CA, USA*). Rejected papers could be resubmitted as short communications. These, as well as those submitted as short communications and abstracts were edited by the committee.

For virus and viroid nomenclature, we followed Rule 3.40 of the International Code of Virus Classification and Nomenclature published in the 7th Report of the International Committee on Taxonomy of Viruses (Academic Press, 2000). Species names are printed in italics and have the first letter of the first word capitalized. When the taxonomic status is uncertain, or the position within a genus is not clarified, it is considered a tentative species and its name is not italicized, although the initial letter is capitalized. Current approved species are *Citrus bent leaf viroid, Citrus exocortis viroid, Citrus viroid III, Citrus viroid IV, Citrus leaf rugose virus, Citrus yellow mosaic virus, Citrus psorosis virus, Citrus tristeza virus* and *Citrus variegation virus*. Citrus cachexia viroid = *Hop stunt viroid* and Citrus tatter leaf virus = *Apple stem grooving virus*. Satsuma dwarf virus is a tentative nepovirus, and presumably so is the closely related Citrus mosaic virus, and Citrus leporosis virus is a tentative rhabdovirus. Other citrus viruses (Citrus vein enation virus, Citrus Indian ringspot virus, Citrus leaf blotch virus) have not yet been officially assigned to a family or genus, but we have published their names in the same way as for tentative species.

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N. Duran-Vila
R. G. Milne
J. V. da Graça
(Editors)

Contributors

A. M. Abou-Zeid, Plant Pathology Institute, Agricultural Research Center, Ministry of Agriculture and Land Reclamation, Cairo, Egypt
E. Abreu-Rodriguez, University of Puerto Rico, Isabela, Puerto Rico
G. P. Accotto, Istituto di Fitovirologia Applicata, CNR, I-10135 Torino, Italy
O. Acosta, Insituto de Biotecnología, Universidad Nacional de Colombia
G. Albanese, DAA, Mediterranean University of Reggio Calabria, Gallina, Italy
M. R. Albiach-Martí, University of Florida, CREC, Lake Alfred FL 33850, USA
D. Alioto, Dipartimento de Arboricoltura, Botanica e Patologia Vegetale, Università di Napoli, 80055, Portici, Italy (alioto@unina.it)
I. H. Almeyda-León, INIFAP/UANL, Monterrey, Mexico
C. M. Anderson, INTA-EEA Concordia, C.C. 34, E3200AQK Concordia, E.R., Argentina
W. L. Araújo, Departamento de Genética, ESAL/USP, Piracicaba, Brazil
J. M. Arregui, Instituto Valenciano de Investigaciones Agrarias, Apdo. Oficial, 46113 Moncada, Spain
S. Arseni, Agricultural Research Institute, Nicosia, Cyprus
E. Avila, Texas A & M University-Kingsville, Citrus Center, Weslaco TX 78596, USA
M. A. Ayllón, Instituto Valenciano de Investigaciones Agrarias, Apdo. Oficial, 46113 Moncada, Spain
A. J. Ayres, FUNDECITRUS, CEP 14807-040 Araraquara, SP, Brazil (ayres@fundecitrus.com.br)
E. M. D. Azevedo, Departamento Microbiologia e Imunologia, Unicamp, Campinas, Brazil
A. M. Bailey, CINVESTAV-IPN, Unidad Irapuato, Irapuato, Mexico
J. F. Ballester-Olmos, Instituto Valenciano de Investigaciones Agrarias, Apdo. Oficial, 46113 Moncada, Spain
M. Bar-Joseph, S. Tolkowsky Lab., Volcani Center, P.O.Box 6, Bet Dagan, 50250 Israel (m6joseph@volcani.agri.gov.il)
C. J. Barbosa, Instituto Valenciano de Investigaciones Agrarias, Apdo. Oficial, 46113 Moncada, Spain
J. C. Barbosa, Departamento de Ciências Exactas, FCAV-UNESP, CEP 14870-000, Jaboticabal, SP, Brazil
J. A. Bash, Department of Plant Pathology, University of California, Riverside, CA 92521, USA
L. Batista, Instituto de Investigaciones de Cítricos, Havana, Cuba (lochy@infomed.sld.cu)
M. G. Bausher, USDA-ARS USHRL, 2001 S. Rock Rd, Ft.Pierce, FL 34945, USA
E. Bertolini, Instituto Valenciano de Investigaciones Agrarias, Apdo. Oficial, 46113 Moncada, Spain
D. Boscia, Istituto di Fitovirologia Applicata, CNR, I-10135 Torino, Italy
L. Botella, Instituto Valenciano de Investigaciones Agrarias, Apdo. Oficial, 46113 Moncada, Spain
A. Boutareaud, INRA and Université Victor Seguin Bordeaux 2, B.P.81, 33883 Villenave d'Ornon cedex, France
J. M. Bové, INRA and Université Victor Seguin Bordeaux 2, B.P.81, 33883 Villenave d'Ornon cedex, France (josy.bove@libertysurf.fr)
J. Bowyer, Department of Crop Sciences, University of Sydney, NSW 2006, Australia

J. H. J. Breytenbach, Citrus Research International, Nelspruit, 1200 South Africa
R. H. Brlansky, University of Florida, CREC, Lake Alfred FL 33850, USA (rhby@lal.ufl.edu)
P. Broadbent, Auscitrus, P.O.Box 46, Mulgoa, NSW 2745, Australia (pat.barkley @bigpond.com.au)
B. Caldana, Centro APTA Citros Sylvio Moreira, CP 04, 13490-970 Cordeirópolis, SP, Brazil
A. Camacho, Egyptian-German Citrus Project, GTZ, Cairo, Egypt
M. Cambra, Instituto Valenciano de Investigaciones Agrarias, Apdo. Oficial, 46113 Moncada, Spain (mcambra@ivia.es)
M. C. Caporrino, Departamento Microbiologia e Imunologia, Unicamp, Campinas, Brazil
F. Carimi, Istituto di Ricerca per la Genetica degli Agrumi, CNR, 90128 Palermo, Italy
P. Carle, INRA and Université Victor Seguin Bordeaux 2, B.P.81, 33883 Villenave d'Ornon cedex, France
M. L. Caruana, CIRAD-FLHOR, Montpellier, France
S. A. Carvalho, Centro APTA Citros Sylvio Moreira, CP 04, 13490-970 Cordeirópolis, SP, Brazil (sergio@centrodecitricultura.br)
J. C. Casín, Instituto de Investigaciones de Cítricos, Havana, Cuba
A. Catara, DISTEF, Sect. Plant Pathology, University of Catania, Catania, Italy
B. Cevik, Department of Plant Pathology, University of Florida, Gainesville, FL 32611, USA
B. Chabrier, CIRAD-FLHOR, BP 153, 97202 Fort-de-France, Martinique
J. X. Chaparro, USDA-ARS HRL, 2001 S. Rock Rd, Ft.Pierce, FL 34945, USA
X. Che, S. Tolkowsky Lab., Volcani Center, P.O. Box 6, Bet Dagan, 50250 Israel
Q. Chen, Citrus Research Institute, CAAS, Beibei, Chongqing 400712, China
A. Çinar, Subtropical Fruits Research & Experimental Centre, University of Çukurova, Adana, Turkey
H. D. Coletta Filho, Centro APTA Citros Sylvio Moreira, CP 04, 13490-970 Cordeirópolis, SP, Brazil
R. Connor, Elizabeth Macarthur Agricultural Institute, NSW Agriculture, PMB 8, Camden, NSW 2570, Australia
M. J. Corazzo-Nunes, Universidade Estadual de Maringá, PR, Brazil
N. Costa, INTA-EEA Concordia, C.C. 34, E3200AQK Concordia, E.R., Argentina (ncosta@concordia.com.ar)
M. Cristofani, Centro APTA Citros Sylvio Moreira, CP 04, 13490-970 Cordeirópolis, SP, Brazil
B. M. da Graça, Texas A & M University, College Station. (formerly Texas A & M University Agriculture Experiment Station, Weslaco, TX 78596, USA)
J. V. da Graça, Texas A & M University-Kingsville, Citrus Center, Weslaco TX 78596, USA (j-dagraca@tamu.edu)
V. D. Damsteegt, FDWSRU, Ft. Detrick MD, USA
J.-L. Danet, INRA and Université Victor Seguin Bordeaux 2, B.P.81, 33883 Villenave d'Ornon cedex, France
T. E. Dawson, Horticulture and Food Research Institute, Kerikeri, New Zealand (tdawson@hortresearch.co.nz)
W. O. Dawson, University of Florida, CREC, Lake Alfred FL 33850, USA
J. O. de Figueiredo, Centro APTA Citros Sylvio Moreira, CP 04, 13490-970 Cordeirópolis, SP, Brazil

M. G. H. Dekkers, University of Florida, CREC, Lake Alfred FL 33850, USA
J. D. De Negri, Centro APTA Citros Sylvio Moreira, CP 04, 13490-970 Cordeirópolis, SP, Brazil
R. C. de Oliveira, Centro APTA Citros Sylvio Moreira CP 04, 13490-970 Cordeirópolis, SP, Brazil
K. S. Derrick, University of Florida, CREC, Lake Alfred FL 33850, USA (ksd@lal.ufl.edu)
F. de Pasquale, Istituto di Ricerca per la Genetica degli Agrumi, CNR, 90128 Palermo, Italy
P. Dermatas, Directorate of Agricultural Development, Argolis Prefecture, Nafplion, Greece
L. C. F. Dias, Departamento Microbiologia e Imunologia, Unicamp, Campinas, Brazil
D. Dimou, Directorate of Agricultural Development, Argolis Prefecture, Nafplion, Greece
F. Di Serio, DPPMA, University of Bari, and CEVICOM, Bari, Italy
K. Djelouah, Istituto Agronomico Mediterraneo, Valenzano, Italy (citrus@iamb.it)
J. A. Dodds, Department of Plant Pathology, University of California, Riverside, CA 92521, USA (dodds@ucr.edu)
A. Domínguez, Instituto Valenciano de Investigaciones Agrarias, Apdo. Oficial, 46113 Moncada, Spain
A. M. D'Onghia, Istituto Agronomico Mediterraneo, Valenzano, Italy (donghia@iamb.it)
J. Drosopoulou, Control Station for Vegetative Propagating Material, Aspropyrgos, Greece (drosop@aua.gr)
A. Dubois, Station de Recherche Agronomiques INRA-CIRAD, 20230 San Giuliano, Corsica, France
M.-P. Dubrana, INRA and Université Victor Seguin Bordeaux 2, B.P.81, 33883 Villenave d'Ornon cedex, France
N. Duran-Vila, Instituto Valenciano de Investigaciones Agrarias, Apdo. Oficial, 46113 Moncada, Spain (nduran@ivia.es)
S. Duret-Nurbel, INRA and Université Victor Seguin Bordeaux 2, B.P.81, 33883 Villenave d'Ornon cedex, France
S. Eid Salem, Horticulture Research Institute, ARC, Cairo, Egypt
A. El Harawi, Central Administration for Agriculture, Ministry of Agriculture and Land Reclamation, Cairo, Egypt.
A. Fabiani, INTA-EEA Concordia, C.C. 34, E3200AQK Concordia, E.R., Argentina
C. Fagoaga, Instituto Valenciano de Investigaciones Agrarias, Apdo. Oficial, 46113 Moncada, Spain
S. Fiore, Istituto di Ricerca per la Genetica degli Agrumi, CNR, 90128 Palermo, Italy
R. Flores, IBMCP, Universidad Politécnica de Valencia, 46022 Valencia, Spain
X. Foissac, INRA and Université Victor Seguin Bordeaux 2, B.P.81, 33883 Villenave d'Ornon cedex, France
D. Frasheri, Istituto Agronomico Mediterraneo, Valenzano, Italy
E. L. Furtado, UNESP, Botucatu, SP, Brazil
S. Gago-Zachert, Departamento de Ciencia y Tecnología, Universidad Nacional de Quilmes & EEA, Concordia, Argentina
L. Galipienso, Instituto Valenciano de Investigaciones Agrarias, Apdo. Oficial, 46113 Moncada, Spain

M. Gandía, Instituto Valenciano de Investigaciones Agrarias, Apdo. Oficial, 46113 Moncada, Spain
M. L. García, IBBM, Universidad Nacional de la Plata, 1900 La Plata, Argentina
M. Garnier, INRA and Université Victor Seguin Bordeaux 2, B.P.81, 33883 Villenave d'Ornon cedex, France
S. M. Garnsey, University of Florida, CREC, Lake Alfred FL 33850, USA (sgarnsey@worldnet.att.net)
P. Gaurivaud, FUNDECITRUS, CEP 14807-040 Araraquara, SP, Brazil
I. Gavriel, Ministry of Agriculture, Natural Resources and Environment, Nicosia, Cyprus
R. Ghorbel, , Instituto Valenciano de Investigaciones Agrarias, Apdo. Oficial, 46113 Moncada, Spain
N. Gimenes-Fernandes, FUNDECITRUS, CEP 14807-040 Araraquara, SP, Brazil
L. F. Girotto, Centro APTA Citros Sylvio Moreira, CP 04, 13490-970 Cordeirópolis, SP, Brazil
G. H. Goldman, FCF/USP, Ribeirão Prieto, Brazil
M. T. Gorris, Instituto Valenciano de Investigaciones Agrarias, Apdo. Oficial, 46113 Moncada, Spain
T. R. Gottwald, USDA-ARS USHRL, 2001 S. Rock Rd, Ft.Pierce, FL 34945, USA (tgottwald@ushrl.ars.usda.gov)
S. Gowda, University of Florida, CREC, Lake Alfred FL 33850, USA
O. Grau, IBBM, Universidad Nacional de la Plata, 1900 La Plata, Argentina
J. Guerri, Instituto Valenciano de Investigaciones Agrarias, Apdo. Oficial, 46113 Moncada, Spain
D. J. Gumpf, Department of Plant Pathology, University of California, Riverside, CA 92521, USA
M. Guzmán, Instituto de Biotecnología, Universidad Nacional de Colombia, Bogota, Colombia (moguzman@ibun.unal.edu.co)
D. L. Hailestones, Elizabeth Macarthur Agricultural Institute, NSW Agriculture, PMB 8, Camden, NSW 2570, Australia (deborah.hailestones@agric.nsw.gov.au)
J. S. Hartung, USDA-ARS, BARC, Beltsville, MD, USA
J. A. Heick, Department of Plant Pathology, University of California, Riverside, CA 92521, USA
A. Hermoso de Mendoza, Instituto Valenciano de Investigaciones Agrarias, Apdo. Oficial, 46113 Moncada, Spain
C. M. Herron, Texas A & M University Agricultural Experiment Station and Texas A & M University-Kingsville Citrus Center, Weslaco TX 78596, USA (c-herron@tamu.edu)
M. E. Hilf, USDA-ARS USHRL, 2001 S. Rock Rd, Ft.Pierce, FL 34945, USA (mhilf@ushrl.ars.usda.gov)
D. S. Howd, University of Florida, CREC, Lake Alfred FL 33850, USA (dshow @lal.ufl.edu)
Q. Huang, USDA-ARS, Floral & Nursery Plants Research Unit, Beltsville MD, USA
S. Huang, Citrus Research Institute, CAAS, Beibei, Chongqing 400712, China
W. B. Hunter, USDA-ARS USHRL, 2001 S. Rock Rd, Ft.Pierce, FL 34945, USA
H. Ieki, Department of Grape and Persimmon Research, National Institute of Fruit Tree Science, Akitsu, Hiroshima 729-2494, Japan
N. G. Iglesias, Departamento de Ciencia y Tecnología, Universidad Nacional de Quilmes & EEA, Concordia, Argentina

N. Ioannou, Agricultural Research Institute, Nicosia, Cyprus
E. Iosephidou, Agricultural Research Institute, Nicosia, Cyprus
M. Irey, US Sugar Corp., Clewiston, FL, USA
Takao Ito, Department of Citrus Research, National Institute of Fruit Tree Science, Kuhinotsu, Nagasaki 859-2501, Japan (itotaka@affrc.go.jp)
Tsutae Ito, Department of Citrus Research, National Institute of Fruit Tree Science, Kuhinotsu, Nagasaki 859-2501, Japan
K. Izadpanah, Department of Plant Protection, Shiraz University, Shiraz, Iran (izadpana@hafez.shirazu.ac.ir)
S. Jarrar, Istituto Agronomico Mediterraneo, Valenzano, Italy
Y. Jiang, Citrus Research Institute, CAAS, Beibei, Chongqing 400712, China
J. Juárez, Instituto Valenciano de Investigaciones Agrarias, Apdo. Oficial, 46113 Moncada, Spain
Th. Kapari-Isaia, Agricultural Research Institute, Nicosia, Cyprus
J. Kasapakis, Institute of Subtropical Plants, Canea, Crete, 73100 Greece
N. Katis, Aristotelion University, Thessaloniki, Greece
S. Korkmaz, Plant Protection Department, Canakkale Orsekiz Mart University, Canakkale, Turkey
M. Krajačić, Department of Biology, University of Zagreb, Croatia
E. E .Kuramae-Izioka, UNESP. Botacatu, Brazil
P. E. Kyriakopoulou, Department of Plant Pathology, Agricultural University of Athens, Votanikos, 11855 Athens, Greece (pek@aua.gr)
A. Kyriakou, Agricultural Research Institute, Nicosia, Cyprus (kyriakou@arinet.gov.cy)
R. La Rosa, DISTEF, Sect. Plant Pathology, University of Catania, Catania, Italy
F. Laigret, INRA and Université Victor Seguin Bordeaux 2, B.P.81, 33883 Villenave d'Ornon cedex, France
F. F. Laranjeira, EMBRAPA Cassava & Fruit Crops, Bahia, Brazil (formerly Centro de Citricultura Sylvio Moreira-IAC, Cordeirópolis, SP, Brazil)
R. F. Lee, University of Florida, CREC, Lake Alfred FL 33850, USA (rfl@lal.ufl.edu)
G. Legarreta, IBBM, Universidad Nacional de la Plata, 1900 La Plata, Argentina
L. Levy, USDA-APHIS, PPQ, Beltsville, MD 20705, USA
T. Li, Citrus Research Institute, CAAS, Beibei, Chongqing 400712, China
R. Llauger, Instituto de Investigaciones de Cítricos, Havana, Cuba
E. C. Locali, Centro APTA Citros Sylvio Moreira, CP 04, 13490-970 Cordeirópolis, SP, Brazil
A. López, Depto. de Estadística e Investigación Operativa, Universidad de Valencia, 46100 Burjassot, Spain
C. López, IBMCP, Universidad Politécnica de Valencia, 46022 Valencia, Spain
J. I. López-Arroyo, INIFAP, General Terán, NL, Mexico
M. Luttig, Institute for Tropical & Subtropical Crops, Nelspruit, 1200 South Africa
W. Maccheroni, INRA and Université Victor Seguin Bordeaux 2, B.P.81, 33883 Villenave d'Ornon cedex, France
M. A. Machado, Centro APTA Citros Sylvio Moreira, CP 04, 13490-970 Cordeirópolis, SP, Brazil (marcos@centrodecitricultura.br)
M. Malfitano, Dipartimento de Arboricoltura, Botanica e Patologia Vegetale, Università di Napoli, 80055, Portici, Italy (malfitan@unina.it)
K. L. Manjunath, Department of Plant Pathology, University of Florida, Gainesville, FL 32611, USA

L. J. Marais, Alltech Inc., Visalia, CA (formerly Department of Plant Pathology, University of California, Riverside, CA 92521, USA)
A. G. Mariano, FUNDECITRUS, CEP 14807-040 Araraquara, SP, Brazil
N. Marques, Universidade do Algarve, 8000 Faro, Portugal
C. Marroquín, Instituto Valenciano de Investigaciones Agrarias, Apdo. Oficial, 46113 Moncada, Spain
G. P. Martelli, Dipartimento de Protezione delle Plante e Microbiologia, Università degli Studi/Centro di Studio del CNR, Bari Italy
S. Martín, Instituto Valenciano de Investigaciones Agrarias, Apdo. Oficial, 46113 Moncada, Spain
M. C. Martínez, Instituto Valenciano de Investigaciones Agrarias, Apdo. Oficial, 46113 Moncada, Spain
D. Mathews, Department of Plant Pathology, University of California, Riverside, CA 92521, USA (dmathews@ucrac1.ucr.edu)
D. Mattos Jr., Centro APTA Citros Sylvio Moreira, CP 04, 13490-970 Cordeirópolis, SP, Brazil
M. Mawassi, S. Tolkowsky Lab., Volcani Center, P.O.Box 6, Bet Dagan, 50250 Israel
P. McConnell, United Estates, Bog Walk, Jamaica
A. Medina, Instituto Valenciano de Investigaciones Agrarias, Apdo. Oficial, 46113 Moncada, Spain
H. Miao, Texas A & M University-Kingsville, Citrus Center, Weslaco TX 78596, USA
R. G. Milne, Istituto di Fitovirologia Applicata, CNR, I-10135 Torino, Italy (r.milne@ivv.cnr.it)
G. J. Minas, Agricultural Research Institute, Nicosia, Cyprus
T. E. Mirkov, Texas A & M University Agricultural Experiment Station, Weslaco TX 79596, USA (e-mirkov@tamu.edu)
J. J. Molina, Texas A & M University Agricultural Experiment Station, Weslaco TX 79596, USA
P. B. Monteiro, FUNDECITRUS, CEP 14807-040 Araraquara, SP, Brazil
P. A. Mooney, Horticulture and Food Research Institute, Kerikeri, New Zealand
G. A. Moore, Horticultural Sciences Department, University of Florida, Gainesville, FL 32611, USA
G. Morales, Instituto de Biotecnologia, Universidad Nacional de Colombia, Bogota, Colombia
P. Moreno, Instituto Valenciano de Investigaciones Agrarias, Apdo. Oficial, 46113 Moncada, Spain (pmoreno@ivia.es)
E. Moschos, Control Station for Vegetative Propagating Material, Aspropyrgos, Greece
M. Mrani, Istituto Agronomico Mediterraneo, Valenzano, Italy
G. W. Müller, Centro APTA Citros Sylvio Moreira, CP 04, 13490-970 Cordeirópolis, SP, Brazil
N. H. Muto, Universidade de Mogi das Cruzes, SP, Brazil
A. Najar, National Institute for Agricultural Research, Tunis, Tunisia
A. Navarro, Instituto Valenciano de Investigaciones Agrarias, Apdo. Oficial, 46113 Moncada, Spain
L. Navarro, Instituto Valenciano de Investigaciones Agrarias, Apdo. Oficial, 46113 Moncada, Spain (lnavarro@ivia.es)
R. P. Neidz, USDA-ARS HRL, 2001 S. Rock Rd, Ft.Pierce, FL 34945, USA
C. L. Niblett, Department of Plant Pathology, University of Florida, Gainesville, FL 32611, USA

O. Nikolaeva, Thomas Jefferson University, Philadelphia, Doylestown, PA 19107, USA
G. Nolasco, Universidade do Algarve, 8000 Faro, Portugal (gnolasco@ualg.pt)
L. R. Nunes, Universidade de Mogi das Cruzes, SP, Brazil
W. M. C. Nunes, Universidade Estadual de Maringà, Maringà. PR, Brazil
F. M. Ochoa, National Plant Pest Reference Lab., Ministry of Agriculture & Forestry, Auckland, New Zealand (formerly University of Florida, CREC, Lake Alfred FL 33850, USA)
A. C. Oliveira, Depto. de Genética e Evolução, UNICAMP, Campinas, SP, Brazil
O. Oliveros, Instituto de Biotecnologia, Universidad Nacional de Colombia, Bogota, Colombia
A. Olmos, Instituto Valenciano de Investigaciones Agrarias, Apdo. Oficial, 46113 Moncada, Spain
N. Önelge, Subtropical Fruits Research & Experimental Centre, University of Çukurova, Adana, Turkey
C. Ortega, Instituto Valenciano de Investigaciones Agrarias, Apdo. Oficial, 46113 Moncada, Spain
M. Osman, Central Administration for Horticulture, Ministry of Agriculture & Land Reclamation, Cairo, Egypt
O. Otero, Instituto de Investigaciones de Cítricos, Havana, Cuba
R. A. Owens, Molecular Plant Pathology Laboratory, USDA/ARS, Beltsville, MD 20705, USA (owensr@ba.ars.usda.gov)
K. Ozaki, Faculty of Horticulture, Minami Kyushu University, Takanabe, Miyazaki 884-0003, Japan
A. Pakniat, Department of Plant Protection, Shiraz University, Shiraz, Iran (pakniat@yahoo.com)
R. R. Palma, FUNDECITRUS, CEP 14807-040 Araraquara, SP, Brazil
P. Papadopoulou, NAGREF, Institute of Technology of Agricultural Products, 141123 Attiki, Greece
L. Papayiannis, Aristotelion University, Thessaloniki, Greece
A. Peluso, Dipartimento di Arboricoltura, Botanica e Patologia Vegetale, Università di Napoli, 80055, Portici, Italy
I. Peña, Instituto de Investigaciones de Cítricos, Havana, Cuba
L. Peña, Instituto Valenciano de Investigaciones Agrarias, Apdo. Oficial, 46113 Moncada, Spain (l.penya@ivia.es)
J. Peñaranda, Instituto de Biotecnologia, Universidad Nacional de Colombia, Bogota, Colombia
J. M. Pérez, Instituto de Investigaciones de Cítricos, Havana, Cuba
M. C. Pérez, Instituto de Investigaciones de Cítricos, Havana, Cuba
R. Pérez, Estación Experimental de Cítricos. Jagüey Grande, Cuba
L. Peroni, Departamento Microbiologia e Imunologia, Unicamp, Campinas, Brazil
J. A. Pina, Instituto Valenciano de Investigaciones Agrarias, Apdo. Oficial, 46113 Moncada, Spain
R. M. Pio, Centro APTA Citros Sylvio Moreira, CP 04, 13490-970 Cordeirópolis, SP, Brazil
M. I. Plata, INTA-EEA Concordia, C.C. 34, E3200AQK Concordia, E.R., Argentina (plata@concordia.com.ar)
M. Polek, Central California Tristeza Eradication Agency, Tulare, CA 93274, USA (cctea@lightspeed.net)
D. Polycarpou, Agricultural Research Institute, Nicosia, Cyprus

J. Pompeu Jr., Centro APTA Citros Sylvio Moreira, CP 04, 13490-970 Cordeirópolis, SP, Brazil
E. E. Protopapadakis, NAGREF, Institute of Subtropical Plants & Olive Trees, Chania, Crete, Greece (protoeft@otenet.gr)
A. Reina, DISTEF, Sect. Plant Pathology, University of Catania, Catania, Italy
J. Renaudin, INRA and Université Victor Seguin Bordeaux 2, B.P.81, 33883 Villenave d'Ornon cedex, France
K. M. Riley, Central California Tristeza Eradication Agency, Tulare, CA 93274, USA
T. K. Riley, USDA, APHIS, Ft.Pierce, FL, USA
C. Rivera, University of Costa Rica, San José, Costa Rica
M. A. Rocha-Peña, INIFAP/UANL, Monterrey, NL, Mexico (mrocha@fcb.uanl.mx)
J. C. V. Rodrigues, Centro APTA Sylvio Moreira, CP 04, 13490-970 Cordeirópolis, SP, Brazil (currently, University of Florida, Gainesville)
D. Rodríguez, Instituto de Investigaciones de Cítricos, Havana, Cuba
C. N. Roistacher, Department of Plant Pathology, University of California, Riverside, CA 92521, USA (chester.r@worldnet.att.net)
M. P. Román, Instituto Valenciano de Investigaciones Agrarias, Apdo. Oficial, 46113 Moncada, Spain
M. L. Roose, Department of Botany & Plant Sciences, University of California, Riverside, CA 92521, USA
I. M. Rosales, INIA, Santiago, Chile (formerly Department of Plant Pathology, University of Florida, Gainesville, FL 32611, USA)
V. Rossetti, Instituto Biológico, CP 7119, 016064-970, São Paulo, SP, Brazil
A. Roy, University of Florida, CREC, Lake Alfred FL 33850, USA
L. Rubio, Instituto Valenciano de Investigaciones Agrarias, Apdo. Oficial, 46113 Moncada, Spain
G. Rustici, Sanger Centre, Cambridge, UK (formerly Istituto di Fitovirologia Applicata, CNR, I-10135 Torino, Italy)
J. Safurim, Central Administration for Horticulture, Ministry of Agriculture & Land Reclamation, Cairo, Egypt
C. Saillard, INRA and Université Victor Seguin Bordeaux 2, B.P.81, 33883 Villenave d'Ornon cedex, France
M. Salehi, Agricultural Research Center of Fars, Zarghan, Iran
A. A. Salibe, Centro APTA Citros Sylvio Moreira, CP 04, 13490-970 Cordeirópolis, SP, Brazil
S. Satar, University of Çukurova, Adana, Turkey
T. Satyanarayana, University of Florida, CREC, Lake Alfred FL 33850, USA
V. Savino, Dipartimento de Protezione delle Plante e Microbiologia, Università degli Studi/Centro di Studio del CNR, Bari Italy
G. Savva, Department of Agriculture, Nicosia, Cyprus
J. S. Semancik, Department of Plant Pathology, University of California, Riverside, CA 92521, USA (joseph.semancik@ucr.edu)
C. P. Semighini, FCF/USP, Ribeirão Prieto, SP, Brazil
L. Semorile, Depto. Ciencia y Tecnologia, University of Quilmes, Bernal, Argentina
V. Shafiee, Department of Plant Protection, Shiraz University, Shiraz, Iran
M. A. Shafik, Central Administration for Horticulture, Ministry of Agriculture & Land Reclamation, Cairo, Egypt
R. G. Shatters, Jr., USDA-ARS HRL, 2001 S. Rock Rd, Ft.Pierce, FL 34945, USA

E. Sheta, Production Sector, Ministry of Agriculture & Land Reclamation, Cairo, Egypt
P. J. Sieburth, Bureau of Citrus Budwood Registration, Winter Haven, FL, USA (sieburp@doacs.state.fl.us)
F. A. Silva, Centro APTA Citros Sylvio Moreira, CP 04, 13490-970 Cordeirópolis, SP, Brazil
M. Skaria, Texas A & M University-Kingsville, Citrus Center, Weslaco TX 78596, USA (m-skaria@tamu.edu)
D. Škorić, Department of Biology, University of Zagreb, Zagreb, Croatia (dijana@croatica.botanic.hr)
C. M. Soares, Universidade do Algarve, 8000 Faro, Portugal
M. Soto, Centro Nacional de Sanidad Agropecuaria, Havana, Cuba
A. A. Souza, Centro APTA Citros Sylvio Moreira, CP 04, 13490-970 Cordeirópolis, SP, Brazil
L. A. Souza, FUNDECITRUS, CEP 14807-040 Araraquara, SP, Brazil
C. Spanou, Directorate of Agricultural Development, Argolis Prefecture, Nafplion, Greece
D. R. Stach-Machado, Departamento Microbiologia e Imunologia, Unicamp, Campinas, Brazil (dmachado@unicamp.br)
P. A. Stansly, SFREC, University of Florida, Imokalee, FL 33934, USA
E. S. Stuchi, EECB, Bebedouro, SP, Brazil
J. A. Szychowski, Department of Plant Pathology, University of California, Riverside, CA 92521, USA
M. Taghizadeh, Agricultural Research Center of Fars, Zarghan, Iran
M. Taher, UNDP-FAO, P.O.Box 10709, Damascus, Syria
M. A. Takita, Centro APTA Citros Sylvio Moreira, CP 04, 13490-970 Cordeirópolis, SP, Brazil
K. Tang, Citrus Research Institute, CAAS, Beibei, Chongqing 400712, China
M. L. P. N. Targon, Centro APTA Citros Sylvio Moreira, CP 04, 13490-970 Cordeirópolis, SP, Brazil (luisa@centrodecitricultura.br)
J. Teófilo Sobrinho, Centro APTA Citros Sylvio Moreira, CP 04, 13490-970 Cordeirópolis, SP, Brazil
M. Tessitori, DISTEF, Sect. Plant Pathology, University of Catania, Catania, Italy (mtessitori@unict.it)
D. J. Tessmann, Universidade de Mogi das Cruzes, Brazil
S. M. Thompson, Molecular Plant Pathology Laboratory, USDA/ARS, Beltsville, MD 20705, USA
J. Torres, Instituto de Biotecnología, Universidad Nacional de Colombia, Bogota, Colombia
I. Trenor, Instituto Valenciano de Investigaciones Agrarias, Apdo. Oficial, 46113 Moncada, Spain
A. Troisi, Dipartimento de Arboricoltura, Botanica e Patologia Vegetale, Università di Napoli, 80055, Portici, Italy
M. Tsagris, Institute of Molecular Biology & Biotechnology/Dept. of Biology, University of Crete, Heraklion, Greece
S. Tzortzakaki, Institute of Molecular Biology & Biotechnology, Heraklion, Greece
M. A. Valim, FCF/USP, Ribeirão Prieto, Brazil
J. B. van der Vyver, Plant Protection Institute, Pretoria (formerly Institute for Tropical & Subtropical Crops, Nelspruit, 1200 South Africa)
S. P. van Vuuren, Institute for Tropical & Subtropical Crops, Nelspruit, 1200 South Africa (fanie@itsg2.agric.za)

S. A. Vekiari, NAGREF, Institute of Technology of Agricultural Products, 141123 Attiki, Greece (vekir.itap@nagref.gr)
L. B. Vela, University of Texas-Pan American, Edinburg, TX 78539, USA
K. Velázquez, Instituto de Investigaciones de Cítricos, Havana, Cuba
C. Vernière, SRA, INRA-CIRAD, San Giuliano, Corsica, France (verniere@cirad.fr)
G. Vidalakis, Department of Plant Pathology, University of California, Riverside, CA 92521, USA (vidal@ucrac1.ucr.edu)
C. I. A. Vildoso, Centro APTA Citros Sylvio Moreira, CP 04, 13490-970 Cordeirópolis, SP, Brazil
W. Villalobos, University of Costa Rica, San José, Costa Rica
A. C. D. Virgílio, FUNDECITRUS, CEP 14807-040 Araraquara, SP, Brazil
M. C. Vives, Instituto Valenciano de Investigaciones Agrarias, Apdo. Oficial, 46113 Moncada, Spain (cvives@ivia.es)
A. P. Williams, Department of Plant Pathology, University of California, Riverside, CA 92521, USA
G. M. Yanai, Universidade de Mogi das Cruzes, SP, Brazil
F. Yang, Citrus Research Institute, CAAS, Beibei, Chongqing 400712, China
Z. N. Yang, Department of Biology, Shanghai Normal University, Shanghai, China (formerly Texas A & M University Agricultural Experiment Station, Weslaco TX 79596, USA)
X. Ye, Department of Botany & Plant Sciences, University of California, Riverside, CA 92521, USA
R. K. Yokomi, USDA-ARS, Parlier, CA 93648, USA (ryokomi@fresno.ars.usda.gov)
S. Zaragoza, Instituto Valenciano de Investigaciones Agrarias, Apdo. Oficial, 46113 Moncada, Spain
M. Zemzani, DDA, Unité de Contrôles des Plantes, Rabat, Morocco (ucp@iam.net.ma)
X. Y. Zhao, Citrus Research Institute, CAAS, Beibei, Chongqing 400712, China
C. Y. Zhou, Citrus Research Institute, CAAS, Beibei, Chongqing 400712, China (changyong@hotmail.com)
D. L. Zies, University of Florida, Gainesville, FL 32611, USA

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