Dr. Sotirios Tjamos

Name & Surname: Sotirios Tjamos
Date of Birth: 05/10/1971
Position: Associate Professor
Laboratory of Plant Pathology, Department of Crop Science, Agricultural University of Athens, Iera Odos 75, 118 55, Athens, Greece
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Education

- 2005 - Ph.D. Faculty of Biotechnology, Agricultural University of Athens, Greece
- 2002 - M.Sc. Faculty of Biotechnology, Agricultural University of Athens, Greece
- 1996 - B.Sc. Department of Biology, Imperial College of Science Technology and Medicine, University of London, UK

Academic Appointments

- 10/2019 – today Associate Professor, Phytopathology Lab, Agricultural University of Athens
- 08/2014 – 10/2019 Assistant Professor, Phytopathology Lab, Agricultural University of Athens
- 01/2011 – 08/2014 Lecturer, Phytopathology Lab, Agricultural University of Athens

Professional Activities

- **Academic Teaching - Agricultural University of Athens**

Phytopathology (U), Principles of Plant Disease Management (U), Postharvest Diseases (U), Plant Microbe Interactions (U), Plant Disease Management (P)

- **Academic Supervision Activity**

Ph.D. Thesis Supervisor:

- 2019 – present, Name of student Eirini Poulaki, Title: The role of bacterial emitted volatile organic compounds in biological control of *Verticillium dahliae* - Agricultural University of Athens
- 2016 – present, Name of student Maria Lykogianni, Title: Novel disease management strategies against soilborne pathogens - Agricultural University of Athens
- 2016 – 2019 Name of student Danai Gkizi, Title: The role of epigenetic inheritance in biological control of *Verticillium dahlia* - Agricultural University of Athens

Master of Science Thesis Supervisor:

- 2019 – present, Name of student, Theodosis Kalogiannis Title: The effect of volatile compounds on postharvest diseases of citrus
- 2019 – present, Name of student, Andreas Tzionis Title: Microbial community of solarised soils
- 2019 – 2020, Name of student, Panagiotis Neofytou Title: The role of polysaccharides on plant disease resistance
- 2018 – 2019, Name of student Politimi Koumboula, Title: Biological control of *Botrytis cinerea* in lettuce and tomato
- 2018 – 2019, Name of student Giorgos Fatouros, Title: The role of monosaccharides and disaccharides in *Verticillium dahliae* host plant interaction
- 2017 – 2018, Name of student Kostas Stasis, Title: The role of soil substrate in the biocontrol activity of *Paenibacillus alvei* K165 against *Fusarium oxysporum* f. sp. *niveum* in watermelon
- 2017 – 2018, Name of student Anna Douka, Title: The role of soil substrate in the biocontrol activity of *Paenibacillus alvei* K165 against *Verticillium dahliae* in watermelon
- 2017 – 2018, Name of student Eirini Poulaki, Title: The use of zeolite against *Sclerotinia sclerotiorum* and *Rhizoctonia solani* in lettuce
- 2016 – 2017, Name of student Eda Naska, Title: Components of the Starch metabolism are hijacked by *Verticillium dahliae* and *Fusarium oxysporum* to promote disease in *Arabidopsis thaliana*
- 2015 – 2016, Name of student Sotiria Fousia, Title: The role of auxins in biological control and disease resistance in *Arabidopsis thaliana* against *Verticillium dahliae*
- 2015 – 2016, Name of student Nikos Lekanis, Title: The influence of *BAM* in the disease outcome upon biotrophic, hemibiotrophic and necrotrophic plant invasion

- 2014 – 2015 Name of student Danai Gkizi, Title: Study of the plant defense mechanisms against *Verticillium dahliae* by using *Arabidopsis thaliana* mutants

- **Academic Grants**

04/07/2017 – 29/09/2017 Swiss National Foundation Grant - Project title: The role of volatile organic compounds emitted by *Paenibacillus alvei* in the biological control of the plant pathogenic fungus *Verticillium dahliae* - Grant number: IZK0Z3_175388, accomplished in the Plant Biology Department, University of Fribourg, Switzerland

- **Grant Reviewer**

- State Scholarship Foundation (IKY), Greece – Second Call for Postgraduate Studies
- Research Promotion Foundation of Cyprus, Framework Program for Research, Technological Development and Innovation
- Netherlands Organization for Scientific Research (NWO) - Veni grant in the Innovational Research Incentives Scheme

- **Reviewer of scientific journals**

BioControl (Editorial Board), Frontiers in Microbiology-section Plant Microbe Interactions (Editor Reviewer), Biological Control, European Journal of Plant Pathology, New Phytologist, Plant Pathology, Plant Disease, Phyopathology

- **Ph.D. thesis Reviewer in Universities abroad (other than Greece)**

- University of New England, Australia – Ph.D candidate: Hayder Abdulhasan Ali
  Thesis title: Effect of Environmental and Host Factors on Biological Con troll of Fusarium Wilt by Non-Pathogenic *Fusarium oxysporum* in Tomato - 2018
- University of Cordoba, Spain – Ph.D candidate: Antonio Santos Rufo
  Thesis title: Irrigation with regards to Verticillium wilt of olive: irrigation water management to reduce the disease in an integrated control framework - 2017
- University of Cordoba, Spain – Ph.D candidate: Maria Mercedes Maldonado-Gonzalez
  Thesis title: Biological control and endophytism of the olive root bacterium *Pseudomonas fluorescens* PICF7 - 2015
- University of Cordoba, Spain – Ph.D candidate: Gloria Maria Garcia Ruiz
  Thesis title: Recursos genéticos de olivo: evaluacion de la resistencia a la verticilosis de variedades de *Olea europaea* L. del banco de germoplasma mundial de olivo - 2014

Professional Experience

- 2020- present **Principal investigator** on the research project “Epigenetics: creating novelty in plant disease protection” funded by the Hellenic Foundation for Research and Innovation (ELIDEK), under the “First Call for H.F.R.I. Research Projects to support Faculty members and Researchers and the procurement of high-cost research equipment grant” (Project Number: 125). The project is carried out in the Phytopathology Lab, Crop Science Department, Agricultural University of Athens
- 2020- present **Principal investigator** on the research project “Evaluation of chemical seed coating formulations against *Fusarium oxysporum* and *Rhizoctonia solani* in cotton” funded by Agrinet2000. The project is carried out in the Phytopathology Lab, Crop Science Department, Agricultural University of Athens
- 2018-2019 **Principal investigator** on the research project “Evaluation of biocontrol formulations against soilborne diseases” funded by FMC. The project was carried out in the Phytopathology Lab, Crop Science Department, Agricultural University of Athens
- 2017-2018 **Principal investigator** on the research project “Evaluation of chemical formulations against *Fusarium oxysporum*” funded by Syngenta SA. The project was carried out in the Phytopathology Lab, Crop Science Department, Agricultural University of Athens
- 2017-2018 **Principal investigator** on the research project “Evaluation of chemical formulations against *Penicillium sp.* in citrus” funded by BASF HELLAS The project was carried out in the Phytopathology Lab, Crop Science Department, Agricultural University of Athens
- 2015-2016 **Principal investigator** on the research project “Evaluation of chemical formulations against soilborne diseases” funded by Syngenta SA. The project was carried out in the Phytopathology Lab, Crop Science Department, Agricultural University of Athens

- 2014-2015 **Principal investigator** on the research project "Evaluation of biocontrol agents against soilborne diseases" funded by Syngenta SA. The project was carried out in the Phytopathology Lab, Crop Science Department, Agricultural University of Athens
- 2014-2015 **Principal investigator** on the research project "Use of biological fungicides to control a range of soil diseases" funded by BASF SA. The project was carried out in the Phytopathology Lab, Crop Science Department, Agricultural University of Athens
- 2013-2015 **Senior researcher** of the project "Implementation of biological control strategies against soilborne pathogens in the farming industry: a seed to field approach" funded by the European Union, in the framework of RD bilateral collaboration Greece – Germany. The project was carried out in the Phytopathology Lab, Crop Science Department, Agricultural University of Athens
- 2013-2014 **Principal investigator** on the research project "Evaluation of the biocontrol formulations Tricho Plus and Subtilex against *Fusarium oxysporum* f.sp. *radicis cucumerinum*" funded by BASF HELLAS. The project was carried out in the Phytopathology Lab, Crop Science Department, Agricultural University of Athens
- 2012-2013 **Principal investigator** on the research project "Evaluation of the biocontrol formulation Seranade Max against *Pseudomonas syringae* pv *tomato*" funded by BASF HELLAS. The project was carried out in the Phytopathology Lab, Crop Science Department, Agricultural University of Athens
- 2010-2012 **Researcher** on the research project "Sustainable use of chemical fumigants for the control of soilborne pathogens" funded by European Union. The project was carried out in the Phytopathology Lab, Crop Science Department, Agricultural University of Athens. The project was carried out in the Phytopathology Lab, Crop Science Department, Agricultural University of Athens
- 2005-2007 **Researcher** on the research project: "Study of the diversity and molecular detection of bacterial and fungal pathogens of olives" funded by the Greek Ministry of Development. The project was carried out in the Phytopathology Lab, Crop Science Department, Agricultural University of Athens
- 2005-2007 **Researcher** on the research project: "Evaluation of rhizospheric bacteria and compost amendments as biocontrol agents against vascular wilts" funded by the Greek Ministry of Education. The project was carried out in the Phytopathology Lab, Crop Science Department, Agricultural University of Athens
- 2001-2004 **Researcher** on the research project: "Ochratoxin-A (OTA) in wine and grapes" funded by the European Union. The project was carried out in the Phytopathology Lab, Crop Science Department, Agricultural University of Athens
- 1999-2003 **Researcher** on the research project: "Verticillium wilt in trees" funded by the European Union. The project was carried out in the Phytopathology Lab, Crop Science Department, Agricultural University of Athens
- 1997-1999 **Young researcher** on the research project: "Soil solarisation against vascular wilts in glasshouse cultivations" funded by the Greek Ministry of Agriculture. The project was carried out in the Phytopathology Lab, Crop Science Department, Agricultural University of Athens
- 1996-1998 **Young researcher** on the research project: 'Isolation and characterization of rhizospheric bacteria as biocontrol agents against Verticillium wilt' funded by the Greek Ministry of Agriculture. The project was carried out in the Phytopathology Lab, Crop Science Department, Agricultural University of Athens

Publications List

- **Poulaki E.G., Gkizi D., Tjamos S.E.** 2020. Potential of zeolite to control Sclerotinia sclerotiorum and Rhizoctonia solani in lettuce and the induction of defense related genes. Journal of Phytopathology 168:113–119.
- **Fousia S., Tsafouros A., Roussos P.A., Tjamos S.E.** 2018. Increased resistance to *Verticillium dahliae* in Arabidopsis plants defective in auxin signaling. Plant Pathology 67: 1749-1757
- **Papastolopoulou C., Diakou G., Gkizi D., Dimitrakas V., Paplomatas E.J., Tjamos S.E.** 2018. The pyruvate decarboxylase 1 (*PDC1*) gene: negative regulator of disease resistance for *Fusarium oxysporum* and *Verticillium dahliae*. European Journal of Plant Pathology 152: 61-69
- **Fatouros G., Gkizi D., Fragkogeorgi G., Paplomatas E.J., Tjamos S.E.** 2018. Biological control of Pythium, Rhizoctonia and Sclerotinia in lettuce: the plant protective activity of the bacterium *Paenibacillus alvei* K165 is associated with the induction of systemic resistance. Plant Pathology 67: 418-425

- **Kefalogianni I., Gkizi D., Pappa E., Dulaj L., Tjamos S.E., Chatzipavlidis I.** 2017. Combined use of biocontrol agents and zeolite as a management strategy against Fusarium and Verticillium wilt. BioControl 62: 139-150
- **Gkizi D, Lehmann S, L'Haridon F, Serrano M, Paplomatas EJ, Métraux JP, Tjamos S.E.** 2016. The innate immune signalling system as a regulator of disease resistance and ISR activity against *Verticillium dahliae*. Molecular Plant Microbe Interactions 29: 313-323
- **Fousia S., Paplomatas E.J., and Tjamos S.E.** 2016. Bacillus subtilis QST 713 confers protection to tomato plants against *Pseudomonas syringae* pv *tomato* and induces plant defence-related genes. Journal of Phytopatholgy 164: 264-270
- **Markakis E.A., Tjamos S.E., Antoniou P.P., Paplomatas E.J., Tjamos E.C.** 2016. Biological control of Verticillium wilt of olive by *Paenibacillus alvei*, strain K165. BioControl 61: 293-303
- **Gkizi D., Santos-Rufo A., Rodrıguez-Jurado D., Paplomatas E.J., and Tjamos S.E.** 2015. The b-amylase genes: negative regulators of disease resistance for *Verticillium dahliae*. Plant Pathology 64: 1484-1490
- **Lehmann S, Serrano M, L'Haridon F, Tjamos S.E., Metraux JP.** 2015. Reactive oxygen species and plant resistance to fungal pathogens. Phytochemistry 112: 54-62
- **Angelopoulou D.J., Naska E.J., Paplomatas E.J., and Tjamos S.E.** 2014. Biological control agents (BCAs) of verticillium wilt: influence of application rates and delivery method on plant protection, triggering of host defence mechanisms and rhizosphere populations of BCAs. Plant Pathology 63: 1062–1069
- **Charalambous A., Tjamos S.E., Domazakis E., and Paplomatas E.J.** 2013. Incorporation into the transplant soil plug of the plant protective agent *Paenibacillus alvei* strain K165 confers protection to melon against Fusarium wilt. BioControl 58: 685-692
- **Pantelides I.S., Tjamos S.E., Pappa S., Kargakis M., and Paplomatas E.J.** 2013. The ethylene receptor ETR1 is required for *Fusarium oxysporum* pathogenicity. Plant Pathology 62: 1302-1309
- **Papasotiriou F.G., Varypatakis K.G., Christofi N., Tjamos S.E., and Paplomatas E.J.** 2013. Olive mill wastes: A source of resistance for plants against *Verticillium dahliae* and a reservoir of biocontrol agents. Biological Control 67: 51-60
- **Stephou V.K., Tjamos S.E., Paplomatas E.J., and Athanassiou C.G.** 2012. Transformation and attachment of Beauveria bassiana conidia on the cuticle of *Tribolium confusum* and *Sitophilus oryzae* in conjunction with diatomaceous earth. Journal of Pest Science 85: 387–394
- **Tsopelas P., Paplomatas E.J., Tjamos S.E., Soulioti N., and Elena K.,** 2011. First Report of *Phytophthora ramorum* on Rhododendron in Greece. Plant Disease 95: 223
- **Gizi D., Stringlis I.A., Tjamos S.E., and Paplomatas E.J**. 2011. Seedling vaccination by stem injecting a conidial suspension of F2, a non-pathogenic. *Fusarium oxysporum* strain, suppresses Verticillium wilt of eggplant. Biological Control 58: 387–392
- **Schoina C., Stringlis I., Pantelides I., Tjamos S.E., and Paplomatas, E.J.** 2011. Evaluation of application methods and biocontrol efficacy of *Paenibacillus alvei* strain K-165, against the cotton black root rot pathogen *Thielaviopsis basicola*. Biological Control 58: 68-73
- **Markakis E, Tjamos SE., Antoniou P., Roussos P., Paplomatas, E.J., and Tjamos E.C.** 2010. Phenolic Responses of Resistant and Susceptible Olive Cultivars Induced by Defoliating and Nondefoliating *Verticillium dahliae* Pathotypes. Plant Disease 94: 1156-1162
- **Pantelides I., Tjamos SE., and Paplomatas, E.J.** 2010. Ethylene perception via ETR1 is required in Arabidopsis infection by *Verticillium dahliae*. Molecular Plant Pathology 11: 191-202
- **Pantelides I., Tjamos SE., and Paplomatas, E.J.** 2010. Insights into the role of ethylene perception in tomato resistance to vascular infection by *Verticillium dahliae*. Plant Pathology 59: 130-138
- **Pantelides I., Tjamos SE., Striglis I., Chatzipavlidis I., and Paplomatas, E.J.** 2009. Mode of action of a non-pathogenic *Fusarium oxysporum* strain against *Verticillium dahliae* using Real Time QPCR analysis and biomarker transformation. Biological Control 50: 30-36
- **Markakis E, Tjamos SE., Antoniou P., Paplomatas, E.J., and Tjamos E.C.** 2009. Symptom development, pathogen isolation and Real Time QPCR quantification as important factors for evaluating resistance of olive cultivars to Verticillium pathotypes. European Journal of Plant Pathology 124: 603-611
- **Markakis EA., Tjamos SE., Chatzipavlidis I., Antoniou PP., and Paplomatas EJ.** 2008. Evaluation of compost amendments for control of vascular wilt diseases. Journal of Phytopathology 156: 622-627

- **Antonopoulos DF., Tjamos SE., Antoniou PP., Rafeletos P., and Tjamos EC.** 2008. Effect of *Paenibacillus alvei*, strain K165, on the germination of *Verticillium dahliae* microsclerotia in planta. Biological Control 46: 166-170
- **Antoniou P.P., Markakis EA., Tjamos SE., Paplomatas EJ., and Tjamos EC.** 2008. Novel methodologies in screening and selecting olive varieties and root-stocks for resistance to *Verticillium dahliae*. European Journal of Plant Pathology 122: 549-560
- **Dimakopoulou M., Tjamos SE., Antoniou P.P., Pietri A., Battilani P., Avramidis N., Markakis E.A., and Tjamos EC.** 2008. Phyllosphere grapevine yeast *Aureobasidium pullulans* reduces *Aspergillus carbonarius* (sour rot) incidence in wine producing vineyards in Greece. Biological Control 46: 158-165
- **Malandraki I., Tjamos SE., Pantelides I., and Paplomatas E.J.** 2008. Thermal inactivation of compost suppressiveness implicates possible biological factors in disease management. Biological Control 44: 180- 187
- **Tsitsigiannis D., Antoniou P., Tjamos SE., and Paplomatas E.J.** 2008. Major diseases of tomato, pepper and eggplant in greenhouses. The European Journal of Plant Science and Biotechnology 2: 106-124
- **Tjamos SE., Markakis, E., Antoniou, P., and Paplomatas E.J.** 2006. First record of Fusarium wilt of tobacco in Greece imported as seedborne inoculum. Journal of Phytopathology 154: 193- 196
- **Tjamos SE., Antoniou, P., and Tjamos E.C.** 2006. *Aspergillus* spp., distribution, population composition and Ochratoxin A production in wine-producing vineyards in Greece. International Journal of Food Microbiology 111: S61- S66
- **Kalogiannis S., Tjamos S.E., Stergiou, A., Antoniou P.P., Ziogas B.N. and Tjamos E.C.** 2006. Selection and evaluation of phyllosphere yeasts as biocontrol agents against grey mould of tomato. European Journal of Plant Pathology 116: 69–76
- **Tjamos S.E., Flemetakis E., Paplomatas E.J., and Katinakis P.** 2005. Induction of resistance to *Verticillium dahliae* in *Arabidopsis thaliana* by the biocontrol agent K-165 and Pathogenesis-Related Proteins Gene Expression. Molecular Plant Microbe Interactions 18: 555- 561
- **Paplomatas E.J., Tjamos S.E., Malandrakis A.A., Kafka A., and Zouvelou V.S.** 2005. Evaluation of composts amendments for suppressiveness against Verticillium wilt of eggplant and study of mode of action using a novel Arabidopsis pathosystem. European Journal of Plant Pathology 110: 35-44
- **Tjamos E.C., Tsitsigiannis D.I., Tjamos S.E., Antoniou P.P., and Katinakis P.** 2004. Selection and screening of endorhizosphere bacteria from solarised soils as biocontrol agents against *Verticillium dahliae* of solanaceous hosts. European Journal of Plant Pathology 110: 35-44
- **Tjamos S.E, Antoniou P.P., Kazantzidou A., Antonopoulos D.F., Papageorgiou I., and Tjamos E.C.** 2004. *Aspergillus niger* and *Aspergillus carbonarius* in Corinth raisin and wine-producing vineyards in Greece. Population composition, ochratoxin A production and chemical control. Journal of Phytopathology 152: 250-255
- **Tjamos E.C., Antoniou P.P., and Tjamos S.E.** 2000 Implementation of soil solarization in Greece: conclusions and suggestions. Crop Protection 19: 843-846

Chapters in scientific books

Tjamos S.E, and Flemetakis E. 2013. Glutathione: An importand player in plant-microbe interactions. In: Glutathione: Biochemistry, mechanisms of action and biotechnological implications. N. Lambrou and E. Flemetakis (eds), pp. 275-292, Nova Science Publishers Inc., NY, USA

Oral Presentations in international conferences

- **Dimitrakas V., Tjamos S., Tsitsigiannis D.I., Paplomatas E.** Olive mill waste composts: A source of resistance for plants against vascular wilts. XVIII International Plant Protection Congress, Berlin, Germany, 2015
- **Gkizi D., Paplomatas E.J., Metraux J.P., Tjamos S.E.** Biocontrol interactions: the molecular interplay of the biocontrol agent *Paenibacillus alvei* K165 with the host plant and the plant pathogen *Verticillium dahliae*. Molecular Plant Microbe Interactions, Rhodes, Greece, 2014
- **Tjamos S.E., Lehmann S., Paplomatas E.J., and Metraux J.P.** Molecular insights in the biocontrol interaction of *Paenibacillus alvei* strain K165 with *Verticillium dahliae* and the host plant. Eleventh International Verticillium Symposium, Gottingen, Germany, 2013

- **Pantelides I.S., Tjamos S.E., Striglis I., Chatzipavlidis J., and Paplomatas E.J.** Mode of action of a non-pathogenic *Fusarium oxysporum* strain against *Verticillium dahliae*. Tenth International Verticillium Symposium, Corfu, Greece, 2009
- **Tjamos S.E., Antoniou P.P., and Paplomatas E.J.** Gene expression in Arabidopsis following induction of resistance to vascular wilt fungi. 9th International Congress of Plant Pathology, Turin, Italy 2008
- **Tjamos S.E., Flemetakis E., Paplomatas E.J., and Katinakis P.** Induction of resistance to *Verticillium dahliae* in Arabidopsis thaliana by the biocontrol agent K-165 and Pathogenesis-Related Proteins gene expression. Seventh International Workshop on Plant Growth Promoting Rhizobacteria, Noordwijkerhout, The Netherlands, 2006
- **Dimakopoulou M., Avramidis N., Tjamos S.E., Antoniou P.P., and Tjamos E.C.** Chemical and biological control of sour rot caused by black Aspergilli in the grapevine variety Agiorgitiko of Korinthia region. Mediterranean Phytopathological Union, Rhodes, Greece, 2006
- **Dimakopoulou M., Tjamos S.E., Tjamos E.C., and Antoniou P.P.** Chemical and biological control of sour rot caused by black aspergilli in the grapevine variety agiorgitiko of Korinth region. International Workshop in: Ochratoxin A in grapes and wine: prevention and control, Marsala, Italy, 2005
- **Tjamos S.E., Flemetakis E., Paplomatas E.J., and Katinakis P.** Induction of resistance to *Verticillium dahliae* in *Arabidopsis thaliana* by the biocontrol agent K-165, Pathogenesis-Related Proteins and Transcription factors gene Expression. Ninth International Verticillium Symposium, Monterey, USA, 2005
- **Tjamos S.E., Arambatzis C., Katinakis P., and Tjamos E.C.** Induction of resistance against verticillium wilt of cucumbers, eggplants and arabidopsis by a rhizosphere bacillus. First International Symposium, Induced Resistance to Plant Diseases, Corfu, Greece, 2000

Seminar Presentations in Universities abroad (other than Greece)

- **Tjamos S.E.** Biological control of soilborne pathogens: induced systemic resistance and epigenetics. Plant Biology Department, Technological University of Cyprus, Cyprus. 29 January 2020.
- **Tjamos S.E.** Biological control of soilborne pathogens: induced systemic resistance and epigenetics. Phytopathology Department, University of Cordoba, Spain. 21 May 2019.
- **Tjamos S.E.** Vascular wilt pathogens: induced systemic resistance and epigenetics. Plant Biology Department, University of Gottingen, Germany. 24 April 2018.
- **Tjamos S.E.** The role of bacterial emitted volatile organic compounds in the biological control of *Verticillium dahliae*. Plant Biology Department, University of Fribourg, Switzerland. 28 September 2017.
- **Tjamos S.E.** Vascular wilt pathogens: Pathogenicity mechanisms and biological control. Plant Biology Department, University of Gottingen, Germany. 22 January 2015.
- **Tjamos S.E.** A biocontrol induced signaling cascade leading to Verticillium wilt resistance. Plant Biology Department, University of Fribourg, Switzerland. 19 September 2013.
- **Tjamos S.E.** Biological control of *Verticillium dahliae*. Plant Biology Department, University of Fribourg, Switzerland. 27 September 2012.