



The Fifth Meeting of the
International Union of Forest Research Organisations (IUFRO)

Working Party 7.02.09

Phytophthora in Forests & Natural Ecosystems

Programme

Please, NO photography or recording of video or audio during presentations.

Posters: Please put your poster up on Tuesday.

AUCKLAND and ROTORUA,
NEW ZEALAND
MARCH 7-12, 2010



Programme

SUNDAY, 7 MARCH – Holiday Inn Auckland Airport

- 3:00 Registration, Holiday Inn Auckland Airport, Auckland
5:00 Icebreaker

MONDAY, 8 MARCH – Holiday Inn Auckland Airport

- 8:30 Field Tour Departs from Holiday Inn Auckland Airport, Auckland
10:15 Field Tour
7:00 Arrive in Rotorua

TUESDAY, 9 MARCH – Blue Baths, Rotorua

- 8:45 Brief welcome by organisers and WG leader
M. Dick and E. Hansen

Session 1 - Regional Roundups

Moderator: **M. Dick**

- 9:05 **Progress in understanding Phytophthora diseases of trees in Australasia**
G. Hardy, T. Burgess, D. Guest, D. Cahill and I. Smith
- 9:30 **Progress in understanding Phytophthora diseases of trees in Africa**
J. Nagel, E. Oh, M. Gryzenhout, B. Slippers, J. Roux and M. J. Wingfield
- 9:55 **Progress in understanding Phytophthora diseases of trees in the Americas**
S. Frankel and E. Hansen
- 10:20 **Progress in understanding Phytophthora diseases in Europe**
T. Jung, A. Vannini and C. M. Brasier
- 10:45 Morning tea

Session 2 - Invasion and Adaptation

Moderator: **C. Brasier**

- 11:15 **Evidence that *P. pinifolia* is an introduced pathogen**
A. Durán, M. Gryzenhout, R. Ahumada, A. Drenth, B. Slippers, B. Wingfield, and M. Wingfield



- 11:30 **Tracking populations and new infections of *Phytophthora ramorum* in southern Oregon forests with DNA fingerprinting**
J. Britt and E. Hansen
- 11:45 **Genotypes of *Phytophthora ramorum* in waterways in Washington state**
G. Chastagner, K. Coats, D. Omdal, A. Ramsey-Kroll, and M. Elliott
- 12:00 **Genotypic and phenotypic characterization of Spanish *Phytophthora ramorum* isolates**
A. Pérez-Sierra, L. Álvarez, A. Vercauteren, K. Heungens and P. Abad-Campos
- 12:15 **Molecular characterisation of a *Phytophthora* hybrid swarm in native ecosystems and waterways in Western Australia**
T. Burgess, M. Stukely, T. Jung, D. White, D. Hüberli, G. Hardy
- 12:30 **Lunch**

Session 3 - New Diseases

Moderator: A. Vannini

- 1:30 ***Phytophthora* taxon *himalasilva*, a new taxon from the subtropical – temperate forest zone in western Nepal**
A. Vettrano, C. Brasier, A. Brown and A. Vannini
- 1:45 **Spread of *Phytophthora ramorum* on to foliage and stems of mature plantation larch (*Larix*) in the UK**
J. Webber, B. Jones and C. Brasier
- 2:00 **New tree hosts and new disease etiologies beneath larch (*Larix*) infected by *Phytophthora ramorum* in the UK**
C. Brasier, B. Jones and J. Webber
- 2:15 ***Phytophthora* species associated with declining *Eucalyptus rudis* (Flooded gum) in Western Australia.**
K. Edwards, W. Dunstan, T. Jung, and G. Hardy
- 2:30 **Phytophthora leaf blight – a new disease of California wax-myrtle (*Morella californica*) in Oregon, USA caused by *Phytophthora syringae***
M. Putnam, M. Serdani, M. Curtis, and S. Angima
- 2:45 **Afternoon tea**



Session 4 – Surveying for Phytophthora

Moderator: G. Hardy

- 3:30** ***Phytophthora* species in soil, water, canopy drip, and vegetation in southwestern Oregon**
P. Reeser, W. Sutton, and E. Hansen
- 3:45** ***Phytophthora* species from stream water in South Africa**
E. Oh, M. Gryzenhout, B. Wingfield, and M. Wingfield
- 4:00** **Recovery of *Phytophthora* species from drainage points and tributaries in two forest stream networks**
J. Hwang, S. Oak, and S. Jeffers
- 4:15** **Fishing for *Phytophthora* across Western Australia’s waterways**
D. Hüberli, T. Burgess, and G. Hardy
- 4:30** **Characterizing the assemblage of *Phytophthora* species in forest streams in Oregon and Alaska**
W. Sutton, P. Reeser, E. Hansen, P. Remigi, and G. Adams
- 4:45** ***Phytophthora* records from passive surveillance programme in New Zealand**
W. Ho, R. Thangavel, M. Romberg, R. Griffin, S. Murugan, and B. Alexander
- 5:00** **Dinner at delegate’s expense**

Evening Session 1 – Phytophthora Evolution and Speciation

Moderator: E. Hansen

- 7:00** ***Phytophthora lateralis* found in Taiwan and its possible significance for the origins of *P. lateralis* and *P. ramorum***
C. Brasier, A. Vettraino, T. Chang, and A. Vannini
- 7:20** **Discuss talk 1**
- 7:40** **Contrasting *Phytophthora* populations at remote and disturbed forest sites in Nepal**
A. Vannini, C. Brasier, A. Brown, and A. Vettraino
- 8:00** **Discuss talk 2**
- 8:20** **Moderated discussion of both talks**



WEDNESDAY, 10 MARCH – Blue Baths, Rotorua

Session 5 – Contributed papers: Managing Phytophthoras in Forests

Moderator: S. Oak

- 8:45 ***Phytophthora cinnamomi* in the Mexican oak forest**
D. Alvarado-Rosales, B. Tlapal-Bolaños, L. de Lourdes Saavedra Romero, A. Almaraz-Sánchez, G. Mora-Aguilera, and J. Villa-Castillo
- 9:00 **Susceptibility of 14 *Abies* spp. to *Phytophthora* root rot**
G. A. Chastagner, A. DeBauw, G. Dermott, K. Coats, and K. Riley
- 9:15 ***Phytophthora* diversity on *Viburnum* and *Rhododendron* species in Swiss nurseries**
S. Prospero, A. Vercauteren, K. Heungens, and D. Rigling
- 9:30 **Pathogenicity of *Phytophthora* taxon Agathis (PTA)**
R. Beever, S. Tsai, N. Waipara, M. Dick, and T. Ramsfield
- 9:45 **Australian native plant susceptibility to *Phytophthora ramorum***
K. Ireland, D. Hüberli, B. Dell, I. Smith, D. Rizzo, and G. Hardy
- 10:00 ***Phytophthora cinnamomi* in native vegetation: A South Australian perspective**
S. McKay, K. Kueh, E. Facelli, A. Able, R. Velzeboer, J. Facelli, and E. Scott
- 10:15 **Morning tea**

Session 6 – Contributed papers: Natural Ecosystem Management

Moderator: E. Goheen

- 10:45 **Management of kauri dieback and *Phytophthora* taxon Agathis**
N. Waipara, A. Davis, S. Hill, J. Brooks, M. Pengelly, J. Barr, S. Bellgard, and R. Beever
- 11:00 **Setting priorities for *Phytophthora* dieback management in vulnerable Western Australian ecosystems**
J. Young and A. Bushell
- 11:15 **Progress in developing containment and eradication methods for *Phytophthora cinnamomi* in natural ecosystems**
W. Dunstan, T. Paap, N. Williams, C. Dunne, N. Sibbel, and G. Hardy
- 11:30 **Evaluation of a *Phytophthora* dieback management framework**
S. Genter, J. Beckwith, K. Howard, and G. Hardy
- 11:45 **Containment and eradication of *Phytophthora cinnamomi* in the Fitzgerald river national park in Western Australia**



C. Dunne, C. Crane, and B. Shearer

- 12:00** **Assessing the survival, sporulation and pathogenicity of *Phytophthora cinnamomi* within water bodies on a mine site: a risk assessment based approach and implications for on-ground management**
N. Williams, T. Paap, W. Dunstan, and G. Hardy
- 12:15** **Phytophthora disease management during the relocation of a bauxite mine in the Jarrah Forest of Western Australia**
I. Colquhoun
- 12:30** **Lunch**

Session 7 – Contributed papers: Phytophthora Control

Moderator: J. Webber

- 1:30** **Fate of phosphite in citrus trees and control of root rot and brown rot of fruit: Model for control of Phytophthoras on forest trees. *Keynote (30 min)***
J. Graham and B. McLean III
- 2:00** **Aerial application of AgriFos in Oregon tanoak forests**
A. Kanaskie, E. Hansen, W. Sutton, P. Reeser, and C. Choquette
- 2:15** **Stem application of phosphite controls *Phytophthora cinnamomi* in native plant communities from southwest Western Australia**
C. Dunne, C. Crane, and B. Shearer
- 2:30** **Plantation management strategy to control *Phytophthora pinifolia* in Chile**
R. Ahumada, Á. Durán, and M. Wingfield
- 2:45** **Early detection and eradication of *Phytophthora ramorum* from Oregon forests, 2001 – 2009**
A. Kanaskie, E. Michaels Goheen, N. Osterbauer, E. Hansen, M. McWilliams, W. Sutton, P. Reeser, and S. Savona
- 3:00** **Monitoring the effectiveness of *Phytophthora ramorum* eradication treatments in southwest Oregon tanoak forests**
E. Michaels Goheen, A. Kanaskie, E. Hansen, W. Sutton, P. Reeser, and N. Osterbauer
- 3:15** **Afternoon tea**
- 3:30** **Poster session**
- 5:00** **Dinner at delegate's expense**



Evening Session 2: Phytophthora Pathogenesis and Control

Moderator: G. Hardy

- 7:00 **How do *Phytophthora* spp. kill trees?**
E. Davison
- 7:20 **Discuss talk 1**
- 7:40 **New insights into the survival strategy of *Phytophthora cinnamomi* in forests, woodlands and heathlands in Western Australia**
T. Jung, T. Burgess, I. Colquhoun, and G. Hardy
- 8:00 **Discuss talk 2**
- 8:20 **Moderated discussion**

THURSDAY, 11 MARCH – Blue Baths, Rotorua

Session 8 – contributed papers: Systematics and Diagnostics

Moderator: T. Ramsfield

- 8:30 **Refined systematics (taxonomy, nomenclature and phylogenetics) of *Phytophthora* for more accurate morphological-molecular identification: The importance of types and authenticated specimens. *Keynote (30 minutes)***
Z. G. Abad, and M. Coffey
- 9:00 **Distribution and detection of *Phytophthora cinnamomi* in soils of mixed hardwood-pine forests of the southeastern USA**
I. Meadows and S. Jeffers
- 9:15 **rRNA sandwich hybridization assay (SHA) a high throughput method for the diagnosis of *Phytophthora* species**
M. Riedel, L. Dressler, U. Demus, S. Julich, M. Kielinski, R. Möller, W. Fritsche, S. Wagner, T. Henkel, A. Breitensteinand, and S. Werres
- 9:30 **Confirm detection of *Phytophthora ramorum* and *P. palmivora* from positive immunostrips components using PCR**
F. Avila, Z. G. Abad, M. D. Coffey, J. Rascoe, J. A. Abad, and G. Martinez
- 9:45 **Sequencing the *Phytophthora cinnamomi* genome – update**
W. Reeve, N. Williams, T. Burgess, P. O'Brien, J. McComb, A. Hardham, S. Kamoun and G. Hardy
- 10:00 **Long-term survival of *Phytophthora kernoviae* oospores**
T. Widmer
- 10:15 **Morning tea**



Session 9 – Contributed papers: Host / Pathogen Interactions

Moderator: T. Jung

- 10:45** **Histological, physiological and molecular investigations of woody plants infected with different Phytophthoras. *Keynote (30 minutes)***
W. Osswald, R. Portz , F. Fleischmann, M. Bleischwitz, J. Koehl, and J. Fromm
- 11:15** **Influence of elevated CO₂ on European beech infected with *Phytophthora citricola***
F. Fleischmann, H. Schnyder, and W. Osswald
- 11:30** **Plant costs for a root pathogen**
A. Henkel, J. Müller, S. Gayler, R. Portz, F. Fleischmann, and W. Osswald
- 11:45** **Physiological effects of *Phytophthora alni* on *Alnus glutinosa***
H. Pfanz and J. Mombour
- 12:00** **Screening for resistance protein polymorphisms associated to tolerance of cork oak to *Phytophthora cinnamomi***
M. Horta, A. Cristina Coelho , P. Caetano, and A. Cravador
- 12:15** ***Quercus suber* – *Phytophthora cinnamomi* interaction: hypothetical molecular mechanism model**
A. Coelho , G. Ebadzad, M. Horta, and A. Cravador
- 12:30** **Lunch**
- 1:30** **Tours (see website for details).**

Evening: Conference dinner start time to be announced (TBA)



FRIDAY, 12 MARCH – Blue Baths, Rotorua

Session 10 – Contributed papers: Pathogen Ecology and Novel Control Approaches

Moderator: S. Frankel

- 8:30 ***Phytophthora kernoviae* in New Zealand – Research update**
M. Dick and J. Gardner
- 8:45 **The spread of *Phytophthora cinnamomi* by feral pigs**
A. Li, N. Williams, P. Adams, S. Fenwick, and G. Hardy
- 9:00 **Stimulation of chlamydospore germination and potential for acquisition and transmission of *Phytophthora ramorum* after passage through the Pacific banana slug *Ariolimax columbianus***
J. Parke, J. Eberhart, and E. Stamm
- 9:15 **Integrated control protocol of ink disease of chestnut in central Italy**
A. Vettrano, S. Franceschini, G. Vuono, R. Paganini, G. Natili, and A. Vannini.
- 9:30 **Effects of vegetal compost and mycorrhizae fungi on *Phytophthora cinnamomi* infection and disease on cork and holm oak plants**
A. Moreira, E. Melo, A. Fontes, M. Fernandes, and A. Cravador
- 9:45 **Companion plant effects on susceptibility to *Phytophthora dieback***
E. Facelli, S. McKay, J. Facelli, A. Able, R. Velzeboer, and E. Scott
- 10:00 **Evaluation of algacides to eliminate propagules of *Phytophthora* spp. in naturally-infested streams in South Carolina, USA**
G. Colburn, I. Meadows, and S. Jeffers
- 10:15 **Morning tea**
- 10:45 **COST action FP0801 – Established and emerging *Phytophthora*: Increasing threats to woodland and forest ecosystems in Europe**
S. Woodward, A. Vannini, S. Werres, W. Osswald, P. Bonants, and T. Jung
- 10:55 **The global forest *Phytophthora* website**
J. Parke, E. Hansen, and S. Frankel
- 11:05 **Moderated discussion lead by E. Hansen**
- 12:15 **Business meeting and close**
- 12:30 **Lunch provided**



POSTERS

Author	Title
Bellgard et al.	Comparative efficacy of hygiene treatments used for disinfestations of <i>Phytophthora</i> taxon <i>Agathis</i> (PTA) inoculum contained in soil
Blom et al.	Ectomycorrhizal community structure in a healthy and a <i>Phytophthora</i> -infected chestnut (<i>Castanea sativa</i> Mill.) stand in central Italy
Bonants et al.	COST action (FP0801): Established and emerging <i>Phytophthora</i> : Increasing threats to Woodland and Forest Ecosystems in Europe, Working Group 3
Botts and Hansen	Interactions between tanoak and <i>Phytophthora ramorum</i> on a microscopic and molecular scale
Bushell and Young	Finding the last stands of healthy Banksias protectable from <i>Phytophthora cinnamomi</i>
Caetano et al.	The use of compost to control <i>Phytophthora cinnamomi</i> in cork and holm oak seedlings
Colquhoun et al.	A new approach to changing the behaviours of users of remnant woodlands in the Perth region
Colquhoun et al.	Best practice management framework for <i>Phytophthora</i> dieback in southwest Western Australia
Corcobado et al.	<i>Phytophthora</i> collar rot of alders in the Iberian peninsula
Crone et al.	Survival and eradication of <i>Phytophthora cinnamomi</i> from black gravel graveyard sites in the <i>Eucalyptus marginata</i> (jarrah) forest
Dalio et al.	Comparing <i>Phytophthora citricola</i> and <i>P. pseudosyringae</i> interaction with beech (<i>Fagus sylvatica</i>) regarding pathogen growth and physiological host responses
Denton et al.	Diversity of <i>Phytophthora</i> species in UK gardens
Díaz-Celay et al.	Morphological characteristics of <i>Phytophthora</i> species isolated from nurseries in Mexico
Ho et al.	<i>Phytophthora</i> species associated with Kawakawa tree decline in New Zealand
Ho et al.	<i>Phytophthora citricola</i> and related taxa in New Zealand
Hughs et al.	Development of a generic real-time assay for the routine diagnosis of <i>Phytophthora</i> species.
Jung et al.	COST action (FP0801): Established and emerging <i>Phytophthora</i> : Increasing threats to Woodland and Forest Ecosystems in Europe, Working Group 4
Muir et al.	The <i>Phytophthora</i> dieback threat to natural resources in Western Australia: communications and community engagement



Oak et al.	<i>Phytophthora ramorum</i> found in streams during the national early detection survey of US forests
Oh et al.	<i>Phytophthora cinnamomi</i> associated with disease of <i>Quercus cerris</i> in the western cape province of South Africa
Osswald et al.	COST action (FP0801): Established and emerging Phytophthora: Increasing threats to Woodland and Forest Ecosystems in Europe, Working Group 2
Perlerou et al.	First report of <i>Phytophthora cryptogea</i> causing ink disease of <i>Castanea sativa</i> in Greece
Randall et al.	Fishing for <i>Phytophthora</i> in the Waitakere Ranges, Auckland, New Zealand
Rea et al.	Three undescribed pathogenic <i>Phytophthora</i> taxa from the south-west of Western Australia
Reeser et al.	Using rain bucket spore traps to monitor spore release during SOD eradication treatments in Oregon tanoak forests
Roy	<i>In vitro</i> screening of systemic fungicides against <i>Phytophthora</i> causing abnormal leaf fall disease of rubber (<i>Hevea brasiliensis</i>)
Smith and Smith	Regeneration of high hazard sites in Victoria, Australia, severely impacted by eucalypt dieback caused by <i>Phytophthora cinnamomi</i>
Solla et al.	First report of <i>Phytophthora alni</i> on <i>Alnus glutinosa</i> in Spain
Stamm et al.	The impact of <i>Phytophthora ramorum</i> isolates expressing differing levels of elicitin on tanoak physiology and hydraulic conductivity
Vannini et al.	Application of remote sensing techniques to ink disease of chestnut in central Italy
Vannini et al.	Mapping temporal and spatial distribution of resident <i>Phytophthora</i> on ink diseased chestnut stands in central Italy
Vannini et al.	Microsatellite analyses of <i>Phytophthora cinnamomi</i> widespread in Taiwan forests and rivers
Velez-Climent and Davis	Phytophthora root rots on Fraser fir – potential for biocontrol using spent mushroom compost
Vettrano et al.	Use of mRNA by as viability marker of <i>Phytophthora cambivora</i> inoculum
Vettrano et al.	Variability in biology and pathogenicity of a <i>Phytophthora cinnamomi</i> population from southern Europe
Werres et al.	COST action (FP0801): Established and emerging Phytophthora: Increasing threats to Woodland and Forest Ecosystems in Europe, Working Group 1
Werres et al.	Occurrence of <i>Phytophthora</i> in irrigation water used in forest and woody ornamental nurseries

