

## **Curriculum vitae: Tania Yonow**

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### **Education**

1983 - 1988: Ph.D., Zoology, University of Newcastle-upon-Tyne, England

1979 - 1983: B.Sc., Upper second class, single honours in Zoology, University of Newcastle-upon-Tyne, England

### **Publications**

1. Yonow, T., Kriticos, D.J., Ota, N., van den Berg, J., and Hutchison, W.D. (2016). *Chilo partellus*: a re-examination of its potential distribution. Submitted to *Journal of Pest Science*.
2. Fourie, P.H., Schutte, G.C., Carstens, E., Hattingh, V., Paul, I., Magarey, R.D., Gottwald, T.G., Yonow, T. And Kriticos, D. (2016) Scientific critique of the paper "Climatic distribution of citrus black spot caused by *Phyllosticta citricarpa*. A historical analysis of disease spread in South Africa" by Martínez-Minaya et al. (2015). Submitted to *European Journal of Plant Pathology*.
3. Li, Z., Zalucki, M.P., Yonow, T., Kriticos, D.J., Bao, H., Chen, H., Hu, Z., Xia Feng, X., and Furlong, M.J. (2015). Population dynamics and management of Diamondback moth (*Plutella xylostella*) in China: the relative contributions of climate, natural enemies and cropping patterns. *Bulletin of Entomological Research*. 18pp  
doi:10.1017/S0007485315001017
4. Beddow, J.M., Pardey, P.G., Chai, Y., Hurley, T.M., Kriticos, D.J., Braun, H.-J., Park, R.F., Cuddy, W.S., and Yonow, T. (2015). Research investment implications of shifts in the global geography of wheat stripe rust. *Nature Plants*. doi:10.1038/nplants.2015.132
5. Yonow, T. and Kriticos, D. (2014). Misconstrued risks from citrus black spot in colder climates: a response to Er *et al.* 2013. *European Journal of Plant Pathology* 1-6. doi:10.1007/s10658-014-0427-4.
6. Yonow, T., Hattingh, V. and De Villiers, M. (2013). CLIMEX modelling of the potential global distribution of the citrus black spot disease caused by *Guignardia citricarpa* and the risk posed to Europe. *Crop Protection* **44**: 18-28.
7. Kriticos, D.J., Yonow, T., and McFadyen, R.E. (2005). The potential distribution of *Chromolaena odorata* (Siam weed) in relation to climate. *Weed Research* **45**: 246-254.
8. Yonow, T., Kriticos, D.J. and Medd, R.W. (2004). The potential geographic range of *Pyrenophora semeniperda*. *Phytopathology* **94**: 805-812.
9. Yonow, T., Sutherst, R.W., Dominiak, B., Maywald, G.F., Zalucki, M.P., Maelzer, D.A., and Kriticos, D.J. (2004). Modelling the population dynamics of the Queensland fruit fly,

- Bactrocera (Dacus) tryoni*: a cohort-based approach incorporating the effects of weather. *Ecological Modelling* **173**: 9-30.
10. Steinbauer, M.J., Yonow, T., Reid, I.A. and Cant, R. (2002). Ecological biogeography of species of *Gelonus*, *Acantholybas* and *Amorbus* in Australia. *Austral Ecology* **27**: 1-25.
  11. Sutherst, R.W., Bottomley, W., Yonow, T. and Maywald, G.F. (2001). CLIMEX use in Pest Risk Analysis. In: CABI Pest Compendium Version 2 (CD and WWW: <http://www.cabi-publishing.org/cdrom/Compendia/CPC/index.asp>)
  12. Sutherst, R.W., Collyer, B.S. and Yonow, T., (2000). The vulnerability of Australian horticulture to the Queensland fruit fly, *Bactrocera (Dacus) tryoni*, under climate change. *Australian Journal of Agricultural Research* **51**: 467-480.
  13. Sutherst, R.W., Ingram, J.S.I., Yonow, T., Scherm, H. and Sutton, K., (Eds.) (1998). Global Change Impact Assessment Approaches for Vectors and Vector-borne Diseases. Report of an international workshop held at ICIPE headquarters, Nairobi, Kenya, 3-6 September 1997. GCTE Working Document No. 27. GCTE-IGBP, Canberra, Australia. pp 1-26.
  14. Yonow, T., Brewster, C.C., Allen, J.C. and Meltzer, M.I. (1998). Models for heartwater epidemiology: practical implications and suggestions for future research. *Onderstepoort Journal of Veterinary Research* **65**: 263-273.
  15. Chakraborty, S., Murray, G.M., Magarey, P.A., Yonow, T., O'Brien, R., Croft, B.J., Barbetti, M.J., Sivasithamparam, K., Old, K.M., Dudzinski, M.J., Sutherst, R.W., Penrose, L.J. Archer, C. and Emmett, R.W. (1998). Potential impact of climate change on plant diseases of economic significance to Australia. *Australasian Plant Pathology* **27**: 15-35.
  16. Yonow, T. and Sutherst, R.W. (1998). The distribution of the Queensland fruit fly, *Bactrocera (Dacus) tryoni* in relation to climate. *Australian Journal of Agricultural Research* **49**: 935-953.
  17. Sutherst, R.W., Maywald, G.F., Yonow, T. and Stevens, P.M. (1998). CLIMEX for Windows. Version 1.1 User's Guide. Computer software for predicting the effects of climate on plants and animals. CRC for Tropical Pest Management, Brisbane.
  18. Deem, S.L., Norval, R.A.I., Yonow, T., Peter, T.F., Mahan, S.M. and Burridge, M.J. (1996). The epidemiology of heartwater: establishment and maintenance of endemic stability. *Parasitology Today* **12**: 402-406.
  19. Sutherst, R.W., Yonow, T., Chakraborty, S., O'Donnell, C.C. and White, N.A. (1996). A generic approach to defining impacts of climate change on pests, weeds and diseases in Australasia. In: *Greenhouse. Coping With Climate Change*, W.J. Bouma, G.I. Pearman and M.R. Manning (eds.). CSIRO Publishing, Collingwood, Vic., Australia, pp 281-307.
  20. Yonow, T. (1995). The life-cycle of *Amblyomma variegatum* (Acari: Ixodidae): a literature synthesis with a view to modelling. *International Journal for Parasitology* **25**: 1023-1060.
  21. Yonow, T. and Gigon, F. (1993). Model for survival of unfed female *Amblyomma variegatum* (Acari: Ixodidae) in Kenya. *Experimental and Applied Acarology* **17**: 473-485.
  22. McLachlan, A.J. and Yonow, T. (1988). Reproductive strategies in rain pool dwellers and the model freshwater insect. *Hydrobiologia* **171**: 223-230.
  23. Adams, J., Greenwood, P., Pollit, R. and Yonow, T. (1985). Loading constraints and sexual size dimorphism in *Asellus aquaticus*. *Behaviour* **92**: 277-287.

### Conference / Workshop Papers and Reports

- Sutherst, R.W. and Yonow, T. (Eds.) (1997). Potential impact of defoliating insects in rural tree decline under climate change - Modelling Workshop Report. Prepared for the Climate Change Assessment Section, Air Pollution and Climate Change Branch, Environment Protection Group, Environment Australia, Canberra, 8pp.
- Yonow, T. (1997). Climate change scenarios. Paper presented at the Potential Impact of Global Climate Change on Plant Diseases of Economic Significance to Australia Workshop, 15-16 April 1997, Brisbane, Australia.
- Yonow, T. and Sutherst, R.W. (1996). Predicting species distributions after climate change. Paper presented at the Ecological Society of Australia Conference, 9-12 July 1996, Townsville, Australia.
- Sutherst, R.W., Yonow, T., White, N.A., and Skilton, S. (1995). A hierarchical approach to pest risk analysis under climate change. Paper presented at the Impact of Global Climate Change on Arthropod Pests, Weeds and Diseases Workshop, 9-12 October 1995, Brisbane, Australia.
- Yonow, T. and Sutherst, R.W. (1995). The effects of climate change on major arthropod pests in Australia. Paper presented at the Impact of Global Climate Change on Arthropod Pests, Weeds and Diseases Workshop, 9-12 October 1995, Brisbane, Australia.
- Sutherst, R.W., Yonow, T., White, N.A., Skilton, S. and Bottomley, W. (1995). Pest risk analysis and climate change. Paper presented at the XIII International Plant Protection Congress, 2-7 July 1995, The Hague, The Netherlands.
- Sutherst, R.W., Yonow, T., Chakraborty, S., O'Donnell, C.C. and White, N.A. (1994). A generic approach to defining impacts of climate change on pests, weeds and diseases. Paper presented at the Greenhouse 94 Conference, 10-14 October 1994, Wellington, New Zealand.

### Reports

- CBS Expert Panel, 2013. Response to EFSA Panel on Plant Health, 2013 - Draft Scientific Opinion on the risk of *Phyllosticta citricarpa* (*Guignardia citricarpa*) for the EU territory with identification and evaluation of risk reduction options.  
<http://www.citrusres.com/sites/default/files/documents/CBS%20Expert%20Panel%20comments%20EFSA%20PRA%20CBS%202013.pdf>

### Pest Profiles

- Yonow, T. (2014). *Bactrocera* (*Bactrocera*) *tryoni*. HarvestChoice Pest Geography. St. Paul, MN: InSTePP-HarvestChoice: <http://www.instepp.umn.edu/products/bactrocera-bactrocera-tryoni>
- Hauptfleisch, K., Yonow, T., Kriticos, D.J., and Ota, N. (2014). *Busseola fusca*. HarvestChoice Pest Geography. St. Paul, MN: InSTePP-HarvestChoice: <http://www.instepp.umn.edu/products/busseola-fusca>
- Mylonas, P., Yonow, T., and Kriticos, D.J. (2014). *Cicadulina mbila* (*Naudé*). HarvestChoice Pest Geography. St. Paul, MN: InSTePP-HarvestChoice: <http://www.instepp.umn.edu/products/cicadulina-mbila-naudé>
- Yonow, T. and Kriticos, D.J. (2014). *Diabrotica virgifera virgifera*. HarvestChoice Pest Geography. St. Paul, MN: InSTePP-HarvestChoice: <http://www.instepp.umn.edu/products/diabrotica-virgifera-virgifera>

- Turkington, T.K., Petran, A., Yonow, T., and Kriticos, D.J. (2016). *Fusarium graminearum*. HarvestChoice Pest Geography. St. Paul, MN: InSTePP-HarvestChoice: <http://www.instepp.umn.edu/products/fusarium-graminearum>
- Yonow, T. and Kriticos, D.J. (2014). *Mononychellus tanajoa*. HarvestChoice Pest Geography. St. Paul, MN: InSTePP-HarvestChoice: <http://www.instepp.umn.edu/products/mononychellus-tanaioa>
- Nail, K., Kriticos, D.J., Scott, J.K., Yonow, T., and Ota, N. (2014). *Striga asiatica*. HarvestChoice Pest Geography. St. Paul, MN: InSTePP-HarvestChoice: <http://www.instepp.umn.edu/products/striga-asiatica>

### Conference Posters

- Hart, L., Yonow, T., Lupton, J., Chakraborty, S. and Sutherst, R. (1997). Impact of climate change on the anthracnose pathogen and its host, *Stylosanthes scabra*. Poster presented at the 11th Biennial Australasian Plant Pathology Society Conference, 29 September - 2 October 1997, Perth, Western Australia. *Phytopathology* **87**: S39.
- O'Donnell, C., Lupton, J., Yonow, T. and Sutherst, R. (1994). Generic approach to pest impacts under climate change in Australasia. Poster presented at the Greenhouse 94 Conference, 9-14 October 1994, Wellington, New Zealand.

### Courses

- Access 97. Drake Training, Brisbane, Australia. 2 days, April 1999.
- The Seven Habits of Highly Effective People. Teaching and Educational Development Institute, University of Queensland, St. Lucia, Australia. 4 mornings, November 1996.
- Microsoft Project for Windows Version 4.0. Insight Training, Spring Hill, Australia. 2 days, February 1995.
- Modelling Insect Population Dynamics. Department of Entomology and Nematology, University of Florida, Gainesville, Florida, USA. 12 days, January – April 1994.
- Introduction to Geographical Information Systems. Department of Wildlife and Forest Biology, University of Massachusetts, Amherst, Massachusetts, USA. 20 days, March – May 1993.
- Advanced Modeling. Department of Wildlife and Forest Biology, University of Massachusetts, Amherst, Massachusetts, USA. 10 days, January – March 1993.
- Ecological Modeling and Simulation. Department of Wildlife and Forest Biology, University of Massachusetts, Amherst, Massachusetts, USA. 12 days, September – December 1992.
- Tick modelling, using CLIMEX and T3HOST. CSIRO Entomology, Long Pocket Laboratories, Indooroopilly, Australia. 6 weeks full time, August – September 1989.

### Employment History

February 2012 – December 2015

Scientific Consultant to HarvestChoice, for both the agriculture and livestock pest and disease components of the project. I was involved with LPEG (Livestock Pest Economic Geography), developing a roadmap to understand spatially-explicit economic costs of livestock pests and diseases, identifying the capacity to ameliorate productivity, with a view to prioritising pests and diseases at various scales. This included a bibliographic search and analysis and a workshop in Kenya. I helped run a CLIMEX course in South Africa in July 2012, and contributed to a DYMEX course in October 2013. I contributed

to the parameterisation and documentation of 11 CLIMEX models of various agricultural pests, seven of which are now available from the InSTePP website.

March 2012 – July 2014

Scientific Consultant to the University of Queensland. I constructed a population dynamics model (using DYMEC) of the diamondback moth, *Plutella xylostella*, a major pest of brassica. The model includes a lifecycle module for a simple crop and a lifecycle module for *Diadegma semiclausum*, parasitoids wasps that lays eggs in diamondback moth second and third instar larvae.

April – December 2009

Scientific Consultant to Citrus Research International (Pty) Ltd., Stellenbosch, South Africa. I developed a CLIMEX model of the potential distribution of *Guignardia citricarpa*, the fungus responsible for citrus black spot. I also wrote a report to fully document the choice of parameter values and to assess and address all criticisms raised by the European Food Safety Authority (EFSA) of an earlier CLIMEX model.

December 2002 – February 2003

Scientific Consultant to Australian Department of Agriculture Forestry & Fisheries (AFFA). I developed a CLIMEX model of the potential distribution of *Pyrenophora semeniperda*, wrote a report fully documenting the parameter values and discussing the predicted range; and presented the findings at a workshop. A paper on this work was published in 2004.

July 2001 – February 2002

Research Scientist, CSIRO Division of Entomology, Black Mountain, Canberra, ACT, Australia. I was contracted on a part-time basis to prepare the course notes for an ecological modelling workshop (using CLIMEX) held in Brisbane in mid-January 2002, and to assist in running the workshop.

April – July 2001

Research Support Officer, CSIRO Division of Sustainable Ecosystems, Gungahlin, Canberra, ACT, Australia. The primary focus of this contract was to help prepare the Biodiversity Sector for a major international review in August. This involved numerous meetings, and the preparation of various documents and reports.

March 2001

CLIMEX Modelling Consultant, CSIRO Division of Entomology, Black Mountain, Canberra, ACT, Australia. I provided CLIMEX analyses of nematodes (*Heterodera glycines*), viruses (African cassava mosaic virus), pathogens (*Xylella fastidiosa*) and an insect (*Bactrocera (Dacus) tryoni*). I completed reports for each species, indicating source and destination risks, as well as PRA concerns. The work is part of the new Crop Protection Compendium CD that CABI has published, and is available on the web.

mid-September – mid-December 2000

Research Support Officer, CSIRO Division of Sustainable Ecosystems, Gungahlin, Canberra, ACT, Australia. I was partly involved in Divisional work (planning and review activities), but most of my time was spent on Biodiversity Sector work. I helped organise, run and write reports for the Biodiversity Sector and I updated the CSIRO Biodiversity Web site.

May 2000

Modelling Consultant, Australian Plague Locust Commission (APLC), Canberra, ACT, Australia. I modified and enhanced the APPLC's model for the plague locust, *Chortoicetes*

*terminifera*, and developed prototype models for the migratory locust (*Locusta migratoria*) and the spur-throated locust (*A. guttulosa*).

February 2000 – May 2000

Experimental Scientist, CSIRO Division of Entomology, Black Mountain, Canberra, ACT, Australia. I completed a population dynamics model for Queensland fruit fly and prepared a manuscript for publication describing the model. The manuscript was published in *Ecological Modelling* in 2004.

July 1998 – September 1999

Experimental Scientist, CSIRO Division of Entomology, Long Pocket Laboratories, Brisbane, QLD, Australia. I modified and validated models of tick species in Africa; produced a World Wide Web page documenting the modelling procedures and results obtained for a number of African countries; and developed Access database applications to collate information on potential biocontrol agents of weeds (*Jatropha* and *Hyptis* species) in Australia.

September 1997 – July 1998

Senior Research Assistant, Cooperative Research Centre for Tropical Pest Management, University of Queensland, Brisbane, QLD, Australia. I helped to organise and run workshops; prepared written workshops reports; edited and completed manuscripts for publication; re-wrote large sections of the User's Guide for the software package CLIMEX; and continued to work on improvements to a population model for the Queensland fruit fly. I also updated, corrected and documented a number of the species parameter files that are provided with CLIMEX.

August 1994 - September 1997

Research Officer, Cooperative Research Centre for Tropical Pest Management, University of Queensland, Brisbane, QLD, Australia. The position, funded by the National Greenhouse Advisory Committee, was to develop a generic approach to assessing the impacts of climate change on pests, diseases and weeds in Australia. We designed a hierarchical approach to impact assessments. I developed two models for the Queensland fruit fly: a climate-driven distribution model (CLIMEX), and a prototype population dynamics and management model (DYMEX).

July 1993 - August 1994

Postdoctoral Associate, Department of Infectious Diseases, College of Veterinary Medicine, University of Florida, Gainesville, FL, USA. I was employed to model the epidemiology of heartwater (*Cowdria ruminantium*), a rickettsial disease of livestock in Africa and the Caribbean, which is transmitted by ticks of the genus *Amblyomma*. A model of the disease dynamics was constructed and published, providing interesting insights into the disease and its dynamics, and questioning the traditional approach to disease management.

April 1991 - July 1993

Adjunct Professor, Department of Entomology, University of Massachusetts, Amherst, MA, USA. I spent the time analysing data and writing papers on ecological research conducted in Kenya on *Amblyomma variegatum*.

January 1989 - March 1991

Research Associate. Employed by the Swiss Directorate for Development Cooperation and Humanitarian Aid (DDA), through the Institute of Zoology, University of Neuchâtel, Switzerland. I was based at the International Centre for Insect Physiology and Ecology,

Nairobi, Kenya. The project was a study of the ecology of the tropical bont tick, *Amblyomma variegatum*, the principal vector of heartwater to livestock in this part of Africa.

August - December 1988

Temporary Laboratory Technician, Department of Zoology, University of Newcastle-upon-Tyne, England. I assisted with laboratory classes for undergraduates, provided histological and histochemical services to the department, maintained the locust colony for neurological research, and maintained the departmental display tanks of various animals.