



COUNCIL OF AUSTRALASIAN WEED SOCIETIES

Medal for Leadership Recipient

Dr Louise Morin

Research:

With a Bachelor, Masters and Doctoral degrees in plant sciences, Dr Louise Morin has an extensive track record of research spanning Canada, New Zealand and Australia. Following her PhD studies at the University of New England, Dr Morin was a post-doc with Agriculture and Agri-Food Canada (1993-94) and then a research scientist with Landcare Research Ltd., New Zealand (1994-96). In 1996 she joined CSIRO, where she has spent the overwhelming majority of her professional career (ca. 32 years).

Dr Morin has produced over [166 publications](#), including international journal papers, conference papers and scientific reports. These span the fields of biological control, weed and pathogen ecology, weed prioritisation and weed management. By way of example, a list of key journal publications is attached.

Teaching:

Dr Morin has been a generous external supervisor of Honours and PhD students (across universities in ACT, NSW, QLD), and postdoctoral fellows. Several of her students and postdoctoral fellows have gone on to take on significant leadership roles in the biosecurity sector (e.g. Dr Peter Turner [Manager, Weed Biosecurity], Dr Raghu Sathyamurthy [Research Director: Biosecurity]). In addition, she has mentored countless early and mid-career researchers in CSIRO and other organisations.

Extension:

Dr Morin's extension work has been across ACT, QLD, NSW, VIC, SA and WA on a range of on-ground implementation projects related to promoting and advising on the use of pathogens for weed biological control. She has been an excellent communicator and collaborator across scientific, government, industry and community sectors, including working with extension arms of state governments and with many community groups in the monitoring and release of agents.

Administration and Implementation:

Dr Morin has been a national leader in weed management, extending her strategic influence beyond CSIRO. She was the program leader for biological control in the Weeds CRC (2004-2008). She has brought scientific perspectives to the Environment and Invasives Committee (and its predecessors) as a CSIRO observer. She was an active contributor to the Weed of National Significance (WoNS) taskforce for Asparagus weeds. She was instrumental in the resurrection and elevation of Australia's weed biological control capability through leadership in three Rural R&D for Profit programs of work (via Meat and Livestock Australia and Agrifutures).

Within CSIRO she has managed multiple, overlapping projects, supervising and developing scientific and technical staff in the face of technical and budgetary challenges.

Peer recognition for her work:

Dr Morin has conducted, led and collaborated in many weed biological control programs to the long-term benefit of Australia's primary industries and natural ecosystems. In particular, she has been a leader in the national research effort on fungal pathogens for biological control, including for bridal creeper, sea spurge, Crofton weed, wandering trad, African boxthorn and flaxleaf fleabane.

Within the biocontrol scientific community, both within Australia and internationally, Dr Morin is recognised by peers for her excellence in methodological approach, thoroughness in risk assessment and understanding of regulatory processes for the approval of biocontrol agents.

A robust measure of international scientific peer recognition is citation. Dr Morin's publications have been cited in over 1500 other scientific publications. Seminal articles across the weed management field include:

- Glare et al. 2012. Have biopesticides come of age? *Trends in Biotechnology* >354 citations
- Reid, et al. 2009. Does invasive plant management aid the restoration of natural ecosystems? *Biological Conservation* >128 citations
- Morin et al. 2009 Review of approaches to evaluate the effectiveness of weed biological control agents. *Biological Control* >104 citations

As further testimony towards her standing in the weed management community, Dr Morin is also often asked by regulators to be an arbiter of tricky release applications for candidate biocontrol agents, given the breadth and depth of her knowledge in the field.

Impact on her work on others:

Dr Morin has been a standard-setter for how biological control host-testing research is done in Australia, and for meeting the information requirements of regulatory authorities to aid their decisions on whether an agent should be released. As part of doing this she has mentored researchers within CSIRO and other scientific organisations.

More broadly, Dr Morin has been pro-active in setting national strategic directions for weed management in Australia, through participation in various national policy committees and planning workshops.

Selected international scientific journal publications:

- Morin, L. (2020). Progress in Biological Control of Weeds with Plant Pathogens. In J. Leach & S. Lindow (Eds.), *Annual Review Of Phytopathology*, VOL 58 (WOS:000620037300011; Vol. 58, pp. 201–223). <https://doi.org/10.1146/annurev-phyto-010820-012823>
- Morin, L., Aveyard, R., Lidbetter, J., & Wilson, P. (2012). Investigating the Host-Range of the Rust Fungus *Puccinia psidii sensu lato* across Tribes of the Family Myrtaceae Present in Australia. *PLOS One*, 7(4). <https://doi.org/10.1371/journal.pone.0035434>
- Morin, L., Bissett, A., & van Klinken, R. (2022). Exploring the Role of Fungal Endophytes in the Sudden Death Syndrome of the Invasive Shrub *Chrysanthemoides monilifera* subsp. *rotundata* in Australia. *Phytobiomes Journal*, 6(1), 13–25. <https://doi.org/10.1094/PBIOMES-04-21-0027-R>

- Morin, L., & Edwards, P. (2006). Selection of biological control agents for bridal creeper: A retrospective review. *Australian Journal Of Entomology*, 45, 287–291. <https://doi.org/10.1111/j.1440-6055.2006.00552.x>
- Morin, L., Evans, K., Jourdan, M., Gomez, D., & Scott, J. (2011). Use of a trap garden to find additional genetically distinct isolates of the rust fungus *Phragmidium violaceum* to enhance biological control of European blackberry in Australia. *European Journal of Plant Pathology*, 131(2), 289–303. <https://doi.org/10.1007/s10658-011-9808-0>
- Morin, L., Evans, K., & Sheppard, A. (2006). Selection of pathogen agents in weed biological control: Critical issues and peculiarities in relation to arthropod agents. *Australian Journal of Entomology*, 45, 349–365. <https://doi.org/10.1111/j.1440-6055.2006.00562.x>
- Morin, L., Forrester, R., Batchelor, K., Holtkamp, R., Hosking, J., Lefoe, G., Virtue, J., & Scott, J. (2022). Decline of the invasive plant *Asparagus asparagoides* within the first seven years after release of biological control agents in Australia. *Biological Control*, 165. <https://doi.org/10.1016/j.biocontrol.2021.104795>
- Morin, L., Gomez, D., Evans, K., Neill, T., Mahaffee, W., & Linde, C. (2013). Invaded range of the blackberry pathogen *Phragmidium violaceum* in the Pacific Northwest of the USA and the search for its provenance. *Biological Invasions*, 15(8), 1847–1861. <https://doi.org/10.1007/s10530-013-0413-3>
- Morin, L., Paini, D., & Randall, R. (2013). Can Global Weed Assemblages Be Used to Predict Future Weeds? *PLOS One*, 8(2). <https://doi.org/10.1371/journal.pone.0055547>
- Morin, L., Shivas, R., Piper, M., & Tan, Y. (2010). *Austropleospora osteospermi* gen. Et sp nov and its host specificity and distribution on *Chrysanthemoides monilifera* ssp *rotundata* in Australia. *Fungal Diversity*, 40(1), 65–74. <https://doi.org/10.1007/s13225-009-0007-7>
- Morin, L., Talbot, M., & Glen, M. (2014). Quest to elucidate the life cycle of *Puccinia psidii* sensu lato. *Fungal Biology*, 118(2), 253–263. <https://doi.org/10.1016/j.funbio.2013.12.004>
- Morin, L., Van Der Merwe, M., Hartley, D., & Muller, P. (2009). Putative natural hybrid between *Puccinia lagenophorae* and an unknown rust fungus on *Senecio madagascariensis* in KwaZulu-Natal, South Africa. *Mycological Research*, 113, 725–736. <https://doi.org/10.1016/j.mycres.2009.02.008>
- Glare, T., Caradus, J., Gelernter, W., Jackson, T., Keyhani, N., Kohl, J., Marrone, P., Morin, L., & Stewart, A. (2012). Have biopesticides come of age? *Trends in Biotechnology*, 30(5), 250–258. <https://doi.org/10.1016/j.tibtech.2012.01.003>
- Gomez, D., Evans, K., Harvey, P., Baker, J., Barton, J., Jourdan, M., Morin, L., Pennycook, S., & Scott, E. (2006). Genetic diversity in the blackberry rust pathogen, *Phragmidium violaceum*, in Europe and Australasia as revealed by analysis of SAMPL. *Mycological Research*, 110, 423–430. <https://doi.org/10.1016/j.mycres.2005.11.014>
- Hopley, T., Webber, B., Raghu, S., Morin, L., & Byrne, M. (2021). Revealing the Introduction History and Phylogenetic Relationships of *Passiflora foetida* sensu lato in Australia. *Frontiers In Plant Science*, 12. <https://doi.org/10.3389/fpls.2021.651805>
- Hunter, G., Zeil-Rolfe, I., Jourdan, M., & Morin, L. (2021). Exploring the host range and infection process of *Venturia paralias* isolated from *Euphorbia paralias* in France. *European Journal of Plant Pathology*, 159(4), 811–823. <https://doi.org/10.1007/s10658-021-02204-z>
- Ireland, K., Hunter, G., Wood, A., Delaisse, C., & Morin, L. (2019). Evaluation of the rust fungus *Puccinia rapipes* for biological control of *Lycium ferocissimum* (African boxthorn) in Australia: Life cycle, taxonomy and pathogenicity. *Fungal Biology*, 123(11), 811–823. <https://doi.org/10.1016/j.funbio.2019.08.007>
- Ireland, K., Rafter, M., Kumaran, N., Raghu, S., & Morin, L. (2019). Stakeholder survey reveals priorities for African boxthorn biocontrol research in Australia. *Biocontrol Science and Technology*, 29(11), 1123–1128. <https://doi.org/10.1080/09583157.2019.1656166>
- Kriticos, D., Morin, L., Leriche, A., Anderson, R., & Caley, P. (2013). Combining a Climatic Niche Model of an Invasive Fungus with Its Host Species Distributions to Identify Risks to Natural Assets: *Puccinia psidii* Sensu Lato in Australia. *PLOS One*, 8(5). <https://doi.org/10.1371/journal.pone.0064479>
- Lesieur, V., Jourdan, M., Thomann, T., Ollivier, M., Tavoillot, J., Morin, L., & Raghu, S. (2021). Feasibility of classical biological control of *Sonchus oleraceus* in Australia. *Biocontrol Science and Technology*, 31(11), 1174–1203. <https://doi.org/10.1080/09583157.2021.1936451>
- Raghavendra, A., Bissett, A., Thrall, P., Morin, L., Steinrucken, T., Galea, V., Goulter, K., & van Klinken, R. (2017). Characterisation of above-ground endophytic and soil fungal communities

- associated with dieback-affected and healthy plants in five exotic invasive species. *Fungal Ecology*, 26, 114–124. <https://doi.org/10.1016/j.funeco.2017.01.003>
- Reid, A., Morin, L., Downey, P., French, K., & Virtue, J. (2009). Does invasive plant management aid the restoration of natural ecosystems? *Biological Conservation*, 142(10), 2342–2349. <https://doi.org/10.1016/j.biocon.2009.05.011>
- Seier, M., Morin, L., Van der Merwe, M., Evans, H., & Romero, A. (2009). Are the microcyclic rust species *Puccinia melampodii* and *Puccinia xanthii* conspecific? *Mycological Research*, 113, 1271–1282. <https://doi.org/10.1016/j.mycres.2009.08.009>
- Stansbury, C., Batchelor, K., Morin, L., Woodburn, T., & Scott, J. (2007). Standardized support to measure biomass and fruit production by the invasive climber (*Asparagus asparagoides*). *Weed Technology*, 21(3), 820–824. <https://doi.org/10.1614/WT-07-006.1>
- Turner, P., Morin, L., Williams, D., & Kriticos, D. (2010). Interactions between a leafhopper and rust fungus on the invasive plant *Asparagus asparagoides* in Australia: A case of two agents being better than one for biological control. *Biological Control*, 54(3), 322–330. <https://doi.org/10.1016/j.biocontrol.2010.06.005>
- van Klinken, R., Morin, L., Sheppard, A., & Raghu, S. (2016). Experts know more than just facts: Eliciting functional understanding to help prioritise weed biological control targets. *Biological Invasions*, 18(10), 2853–2870. <https://doi.org/10.1007/s10530-016-1175-5>