



Plant Sciences

Conference Contributions 2025

Conference Papers

Adams et al. 2025. *Community perceptions of the fleshy-fruited alien plant Pyracantha angustifolia in South Africa.* Paper delivered at the 17th International Conference on the Ecology and Management of Alien Plant Invasions (EMAPI), Christchurch, New Zealand. 2-5 September 2025.

Adams, L., Martin, G.D., Downs, C. & Steenhuisen, S. 2025. *Use of Google Street View for continuous monitoring of invasive trees: case study on fleshy-fruited invasive alien plants.* Paper delivered at the 50th annual conference of the South African Association of Botanists (SAAB), Wits Rural Facility, South Africa. 1-3 July 2025.

Binto, A., Mohase, L., & Jankielsohn, A. 2025. *Evaluating insecticide sensitivity and inducible plant defence responses against Diuraphis noxia in wheat.* Paper delivered at the 26th Entomological Society of Southern Africa (ESSA) Conference, Bloemfontein, South Africa. 8–11 July 2025.

Botma, W., Minnaar-Ontong, A., Henning, JS., Van der Merwe, R., & Steyn, C. 2025. *Genetic diversity analysis of 276 Cowpea (Vigna unguiculata L. Walp) accessions using SSR markers.* Paper delivered at the 12th International Conference on Agriculture (AGRICO 2025), Bangkok, Thailand. 22-23 September 2025.

Buthelezi, T., Thompson, D.I., Steenhuisen, S-L. & Payne, S. 2025. *Sugar-coated cushions: Pollination ecology of the South African endemic Euphorbia Clavarioides (Euphorbiaceae).* Paper delivered at the 2nd South African Mountain Conference (SAMC), Champagne Sports Resort, KZN, South Africa. 17-20 March 2025.

Canavan, K., Chikowore, G., Hill, M. & Martin, G.D. 2025. *Managing wilding pines in the Cape Floristic Region's mountains.* Paper delivered at the 2nd South African Mountain Conference (SAMC), Champagne Sports Resort, KZN, South Africa. 17-20 March 2025.

Canavan, K., Mfusi, S., Steenhuisen S-L., Mbele, T.J. & Martin, G.D. 2025. *The need for management of Toadflax species, Linaria dalmatica and L. vulgaris in South Africa.* Paper delivered at the 36th National Symposium on Biological Invasions, North-West University, Mafikeng, South Africa. 6-9 October 2025.

Cedras, B.N., Mohotloane, M.M., & Mafa, M.S. 2025. *Production of oligosaccharides with antioxidant properties with the C1184 secretome.* Paper delivered at the CSIR 8th Emerging Researchers Symposium, hosted at CSIR International Convention Centre, 28-29 August 2025.

Dlamini, S.T., le Roux, A., Martin, G.D. & Steenhuisen, S-L. 2025. *Perceptions and uses of invasive wattle species (Acacia mearnsii and Acacia dealbata) in rural mountain communities of the eastern Free State, South Africa.* Paper delivered at the 2nd South African Mountain Conference (SAMC), Champagne Sports Resort, KZN, South Africa. 17-20 March 2025.



Jackson, M., Grobler, H., Sedimo, G., Bester, S.P. & Joubert, L. 2025. *The systematics of Nemesia (Scrophulariaceae)*. Paper delivered at the 50th annual conference of the South African Association of Botanists (SAAB), Wits Rural Facility, South Africa. 1-3 July 2025.

Jackson, M., Grobler, H., Sedimo, G., Bester, S.P. & Joubert, L. 2025. *The systematics of Nemesia Vent. (Scrophulariaceae): The current status and new insights*. Paper delivered at the 1st International Online Conference on Taxonomy, Online. 3-4 December 2025.

Joubert, L., Grobler, H., Jackson, M. & Bester, S.P. 2025. *Nemesia floral structure and pollinator rewards: what we know so far*. Paper delivered at the 50th annual conference of the South African Association of Botanists (SAAB), Wits Rural Facility, South Africa. 1-3 July 2025.

Khakhu, M., Martin, G.D., Hill, M., Steenhuisen, S-L. & McConnachie, A. 2025. *Assessing the risk of introducing Gratiana spadicea as a potential biological control agent for Solanum sisymbriifolium (Solanaceae) in Australia*. Paper delivered at the 36th National Symposium on Biological Invasion, North West University, South Africa. 6-9 October 2025

Khoza, B.M., Bowden, N. & Moloji, M.J. 2025. *Investigating the effect of cysteine derivatives on the physio-biochemical responses of edamame under drought stress*. Paper delivered at the 50th annual conference of the South African Association of Botanists (SAAB), Wits Rural Facility, South Africa. 1-3 July 2025.

Labuschagne, M.T., Engida, B.T., Wegary, D., Tarekegne, A. & Jacoby, A. 2025. *Drought tolerance in quality protein maize in Africa*. Paper delivered at the Interdrought VIII Conference, La Serena, Chile. 18-21 November 2025.

Labuschagne, M.T. & Jacoby, A. 2025. *Climate resilient crop biofortification in South Africa: quo vadis?* Paper delivered at the SAAFosT 26th Biennial Congress, CSIR ICC, Pretoria. 25-27 August 2025.

Lehasa, S.G., Mojau, P.J. & Ashafa, A.O.T. 2025. *in-vitro anti-inflammatory and anti-cancer activity of Dioscorea sylvatica*. Paper delivered at the South African Association of Botanists (SAAB) 2025 Postgraduate symposium. 30 January 2025.

Le Roux, A., Robertson, M., Lloyd, K. & Steenhuisen, S. 2025. *Invertebrate assemblages and vegetation dynamics in high elevation wetlands of the eastern escarpment, South Africa*. Paper delivered at the 2nd South African Mountain Conference (SAMC), Champagne Sports Resort, KZN, South Africa. 17-20 March 2025.

Le Roux, A.B., Steenhuisen, S., Robertson, M., Greve, M. & Lloyd, K. 2025. *Invertebrate assemblages and vegetation dynamics in high elevation wetlands of the Eastern Escarpment, South Africa*. Paper delivered at the 50th annual conference of the South African Association of Botanists (SAAB), Wits Rural Facility, South Africa. 1-3 July 2025.

López-Núñez, F.A., Hoffmann, J., Impson, F., Nunes, A.S., Duarte, L.N., Marchante, E., Roques, A., Martin, G. & Marchante, H. 2025. *Connecting hemispheres through biological control: sharing knowledge and aligning efforts*. Paper delivered at the 20th European Weed Research Society Symposium, Lleida, Spain. 1-4 July 2025.



Mafa, M., Gumani, T.F., Mohase, L., Moloi, M.J., Kemp, G. & Mohotloane, M.M. 2025. *Inhibition of key carbohydrate metabolism enzymes improves wheat acclimatisation to osmotic stress*. Paper delivered at the 50th annual conference of the South African Association of Botanists (SAAB), Wits Rural Facility, South Africa. 1-3 July 2025.

Mapaura, A. 2025. *The Manica Highlands: State of conservation and challenges*. Paper delivered at the 2nd South African Mountain Conference (SAMC), Champagne Sports Resort, KZN, South Africa. 17-20 March 2025.

Mapaura, A., Richardson, D.M., Canavan, K., Le Maitre, N.C., Steenhuisen, S-L. & Clark, V.R. 2025. *Genetic barcoding as a tool to distinguish invasive Nassella species in South Africa*. Paper delivered at the 2nd South African Mountain Conference (SAMC), Champagne Sports Resort, KZN, South Africa. 17-20 March 2025.

Mbele, T.J., Martin, G.D., Steenhuisen, S-L. & Canavan, K. 2025. *Biological control of invasive wattles in South Africa's grassland biome*. Paper delivered at the 36th National Symposium on Biological Invasions, North-West University, Mafikeng, South Africa. 6-9 October 2025.

Minnaar-Ontong, A. & Steyn, C. 2025. *Evaluation of Essential Oils as Potential Bio-Fungicides Against Soybean Sudden Death Syndrome in South African Soybean Cultivars*. Paper delivered at the 12th International Conference on Agriculture (AGRICO 2025), Bangkok, Thailand. 22-23 September 2025.

Modibedi, S., Mojau, P.J. & Lehasa, S. 2025. Investigating the use of *Hermannia geniculata* leaves for the presence of anticancer induced inflammation. Paper delivered at the 27th Indigenous Plant Use Forum (IPUF2025). 12 August 2025.

Modibedi, S.G., Mojau, P.J. & Lehasa, S.G. 2025. *Phytochemical profiling and in vitro evaluation of antimicrobial and anti-inflammatory activities of Hermannia geniculata Eckl. & Zeyh. leaf extracts*. Paper delivered at the 2nd South African Mountain Conference (SAMC), Champagne Sports Resort, KZN, South Africa. 17-20 March 2025.

Modibedi, S., Mojau, P.J. & Lehasa, S.G. 2025. *Integrating indigenous knowledge of *Hermannia geniculata* for anti-inflammatory drug discovery and socio-economic impact in a changing world*. Paper delivered at 6th National Global Change Conference, University of Mpumalanga, South Africa. 1-4 December 2025.

Mohase, L., Bintu, A., Tshabalala, M. & Jankielsohn, A. 2025. *Challenges in Russian wheat aphid (*Diuraphis noxia*) management: escalating resistance to insecticides*. Paper delivered at the 26th Entomological Society of Southern Africa (ESSA) Conference, Bloemfontein, South Africa. 8–11 July 2025.

Moloi, K.T., Martin, G.D. & Steenhuisen, S. 2025. *Mapping the current and future distribution of invasive alien shrubs in South Africa's high-elevation grasslands*. Paper delivered at the 50th annual conference of the South African Association of Botanists (SAAB), Wits Rural Facility, South Africa. 1-3 July 2025.

Moloi, K.T., Martin, G.D., Steenhuisen, S-L. & Payne, S-L. 2025. *Impact of invasive Rosaceae shrubs on rodent and bird diversity in the Maloti-Drakensberg grasslands*. Paper delivered at the 36th National Symposium on Biological Invasions, North-West University, Mafikeng, South Africa. 6-9 October 2025.



Moloi, K.T., Martin, G.D. & Steenhuisen, S. & Payne, S-L. 2025. *Mapping the current and future distribution of invasive alien shrubs in South Africa's high-elevation grasslands*. Paper delivered at the 17th NRF-SAEON GSN Indibano, Qwantani Resort, South Africa. 31 August-5 September 2025.

Moloi, K.T., Martin, G.D, Steenhuisen, S-L. & Payne, S.L. 2025. *Impact of invasive Rosaceae shrubs on rodent and bird diversity in the Maloti-Drakensberg grasslands*. Paper delivered at the 2nd South African Mountain Conference (SAMC), Champagne Sports Resort, KZN, South Africa. 17-20 March 2025.

Moloi, M.J., Tóth, C., Hafeez, A. & Tóth, B. 2025. *Differential responses of edamame cultivars to high temperature: insights on photosynthesis*. Paper delivered at the 50th annual conference of the South African Association of Botanists (SAAB), Wits Rural Facility, South Africa. 1-3 July 2025.

Muzhinji, N., Ntuli, V., Swart, W. & Fosa, H. 2025. *Bacillus velezensis* NM-24 as a sustainable plant growth promoter and biocontrol agent against fungal diseases of potato. Paper delivered at the Working Group "Biological and Integrated Control of Plant Pathogens-From single microbes to microbiomes targeting one health", Torino, Italy. 11-14 June 2025.

Ntjabane, N., Bender, C.M., Du Plooy, J., Nekundi, J., Kemp, G., Visser, B., Boshoff, W.H.P. & Mafa, M. 2025. *Invertase mediates Puccinia triticina proliferation leading to cell wall collapse in susceptible wheat*. Paper delivered at the 50th annual conference of the South African Association of Botanists (SAAB), Wits Rural Facility, South Africa. 1-3 July 2025.

Paulus P.T., Borgemeister, C., Chimwamurombe, P. & Muzhinji N. 2025. *Profiling microbial communities in irrigation water used for green schemes for fresh produce in Namibia*. Paper delivered at the WaterNet/WARFSA/GWP-SA Symposium on Accelerating Implementation of Integrated Water Resources Management in order to Close the Water Investment Gap by 2030 and Beyond, Lusaka, Zambia. 29-31 October 2025.

Payne, S.L., Pissolito, C. & Urbach, D. 2025. *Priority questions to feed the mountain biodiversity research agenda*. Paper delivered at the International Mountain Conference, Innsbruck, Austria. 14-18 September 2025.

Payne, S., Alison, J., Clark, V.R., Gwate, O., Alexander, J., Høye, T., Steenhuisen, S. & RangeX Consortium. 2025. *Plant-animal interactions and wildlife camera by-catch within a montane climate-change experiment in the northern Maloti-Drakensberg*. Paper delivered at the 2nd South African Mountain Conference (SAMC), Champagne Sports Resort, KZN, South Africa. 17-20 March 2025.

Roetger, V., Thompson, D., Cron, G.V. & Steenhuisen, S-L. 2025. *Plant-pollinator networks along an altitudinal gradient in the Drakensberg Mountain Centre – implications for climate change*. Paper delivered at the 2nd South African Mountain Conference (SAMC), Champagne Sports Resort, KZN, South Africa. 17-20 March 2025.

Rothmann, L.A. 2025. *Collective efforts towards progress in Sclerotinia stem rot management in South Africa*. Paper delivered at the Soybean Symposia, Pretoria (CSIR) and Bothaville (NAMPO Park). 29 and 31 July 2025.

Rothmann, L.A. *Fungal forensics in agricultural landscapes: surveillance and response*. National Grain Research Programme. Paper delivered at the North West University & ARC; Potchefstroom. 18- 20 March 2025.



Rothmann, L.A. 2025. *Modelling the "Shape of Water" in Sclerotinia sclerotiorum Epidemiology*. Paper delivered at the Soilborne Plant Disease Symposium. Stellenbosch, Western Cape, South Africa. 21-25 October 2025.

Rothmann, L.A. 2025. *The value of epidemiology and modelling for timely action against white mold*. Keynote delivered at the International Symposium on Plant Pathogenic Sclerotiniaceae, Thessaloniki, Greece. 25–30 May 2025.

Sabela, K. 2025. *Sclerotinia head rot: the development and the validation of a standard area diagram*. Paper delivered at the International Symposium on Plant Pathogenic Sclerotiniaceae, Thessaloniki, Greece. 25–30 May 2025.

Sekhurwane, M., Mafa, M., Domokos-Szabolcsy, E., Kovács, B. & Moloi, M.J. 2025. The influence of selenium soil application on osmolytes and their relationship with photosynthetic efficiency in edamame under severe water stress. Paper delivered at the 50th annual conference of the South African Association of Botanists (SAAB), Wits Rural Facility, South Africa. 1-3 July 2025.

Sithole, J.V., Dayaram, A. & van Aardt, A.C. 2025. *Post-Fire community composition of Drakensberg Amathole-Afromontane Fynbos (Gd6): A comparative study of Gd6 before and after the 2023 fires*. Paper delivered at the 60th Annual Congress of the Grassland Society of South Africa (GSSA), Pietermaritzburg, South Africa. 21-25 July 2025.

Sithole, Z., Moloi, K.T., Steenhuisen, S. & Martin, G.D. 2025. *Cryptic invasion of Rosa species in the grassland biome of South Africa*. Paper delivered at the 50th annual conference of the South African Association of Botanists (SAAB), Wits Rural Facility, South Africa. 1-3 July 2025.

Sithole Z., Steenhuisen, S., Canavan, K., Payne, S., Moloi, K. & Martin, G.D. 2025. *Cryptic invasion of Rosa species in the grassland biome of South Africa*. Paper delivered at the 2nd South African Mountain Conference (SAMC), Champagne Sports Resort, KZN, South Africa. 17-20 March 2025.

Steenhuisen, S., Payne, S., Alison, J., Gwate, O., Alexander, J., Høye, T.T. & Clark, V.R. 2025. *Long-term monitoring of plant-animal interactions and wildlife camera by-catch within a global montane climate-change experiment in the northern Maloti-Drakensberg, South Africa*. Paper delivered at the International Mountain Conference, Innsbruck, Austria. 14-18 September 2025.

Steenhuisen, S., Raguso, R.A., Gokul, A., Payne, S.L., Mitchell, N. & Arnold, A.E. 2025. *Sugarbush diversification – who are all the players?* Paper delivered at the Pollination Symposium of the 50th annual conference of the South African Association of Botanists (SAAB), Wits Rural Facility, South Africa. 30 June-2 July 2025.

Steyn, C., Rikhotso, E., & Minnaar-Ontong, A. 2025. *Greenhouse Screening for Sclerotinia Stem Rot Resistance in Soybean: Evaluation of Inoculation Methods, Pathogen Isolates and Genotypic Response*. Paper delivered at the 12th International Conference on Agriculture (AGRICO 2025), Bangkok, Thailand. 22-23 September 2025.

Van Aardt A.C. & Dayaram, A. 2025. *Range expansion of the Grassland's Bloemfontein Karroid Shrubland*. Paper delivered at the 60th Annual Congress of the Grassland Society of South Africa (GSSA), Pietermaritzburg, South Africa. 21-25 July 2025.



Wang, Y.L., Gajendiran, K., Chen, R., Powell, O.R., Yu, G., Nürnbergger, T., Boshoff, W.H.P. & Wulff, B.B.H. 2025. *Unravelling the genetic basis of Sr43-mediated stem rust resistance in wheat*. Paper delivered at the IS-MPMI Congress, Cologne, Germany. 13-17 July 2025.

Conference Posters

Adams et al. 2025. *The use of ground-level imagery to determine fleshy-fruited invasive alien shrubs populations change over time along roadsides of South African grasslands*. Poster presented at the 5th International Young Researchers Conference on Invasive Species (Online). 6-7 May 2025.

Bester, S.P., Jackson, M. & Joubert, L. 2025. *Towards a comprehensive taxonomic revision of Nemesia Vent. (Scrophulariaceae, Hemimerideae): diversity, morphology, and phylogenetic insights*. Poster presented at the 1st International Online Conference on Taxonomy, Online. 3-4 December 2025.

Cloete, M. 2025. *In-field sunflower and soybean cultivar responses to Sclerotinia sclerotiorum*. Poster presented at the International Symposium on Plant Pathogenic Sclerotiniaceae, Thessaloniki, Greece. 25-30 May 2025.

Cloete, M & Rothmann, L.A. 2025. *In-field sunflower and soybean cultivar responses to Sclerotinia sclerotiorum*. Poster presented at the International Symposium on Plant Pathogenic Sclerotiniaceae, Thessaloniki, Greece. 25-30 May 2025.

Coetzer, A., Visser, B., Terefe, T.G., Du Toit, I., Pretorius, Z.A. & Boshoff, W.H.P. 2025. *Genetic characterisation of Puccinia striiformis f. sp. tritici isolates suggests southerly migration to South Africa*. Poster presented at the 17th ICRPMC, Vancouver, Canada. 15-20 June 2025.

Du Toit, I., Boshoff, W.H.P., Saunders, D.G.O., Terefe, T.G., Pretorius, Z.A. & Visser, B. 2025. *Genetic comparison of South African and global Puccinia striiformis f. sp. tritici isolates*. Poster presented at the 17th ICRPMC, Vancouver, Canada. 15-20 June 2025.

Endalamaw, C., Shamuyarira, K. & Labuschagne, M., 2025. *Grain and biofuel production potential of sweet sorghum genotypes under variable fertilizer regimes in Ethiopian agroecologies*. Poster presented at the 4th Conference of the African Plant Breeders Association, Victoria Falls, Zimbabwe, 6-8 October 2025.

Frylinck, M., Jackson, M. & Joubert, L. 2025. *Systematics of the indigenous Hibiscus L. (Malvaceae) in South Africa*. Poster presented at the 50th South African Association of Botanists (SAAB) Annual Conference, WITS Rural Facility, South Africa. 1-3 July 2025.

Gokul, A., Ndimande, M., Keyster, M. & Niekerk, L. 2025. *Synergistic interaction between Microbial Biocontrol Agents and Commercial Mycorrhiza enhances pathogen tolerance and growth in Phaseolus vulgaris*. Poster presented at the 50th South African Association of Botanists (SAAB) Annual Conference, WITS Rural Facility, South Africa. 1-3 July 2025.

Hlahla, J.M., Mafa, M.S., van der Merwe, R. & Moloji, M.J. *Relationships between physio-biochemical, yield, and morphological traits in edamame under combined drought and heat*. Poster presented at the 50th South African Association of Botanists (SAAB) Annual Conference, WITS Rural Facility, South Africa. 1-3 July 2025.



Hlahla, J.M., van der Merwe, R., Mafa, M.S. & Moloi, M.J. 2025. *Relationships between the physio-biochemical, yield, and growth traits in edamame under combined drought and heat stress.* Poster presented at the 50th South African Association of Botanists (SAAB) Annual Conference, WITS Rural Facility, South Africa. 1-3 July 2025.

Jacoby, A., Coertzen, R.D. & Van der Merwe, R. 2025. *Drought-tolerance in vegetable-type soybean cultivars under South African conditions.* Poster presented at the InterDrought VIII Conference, La Serena, Chile. 17-21 November 2025

Joubert, L., Sedimo, G., Jackson, M. & Bester, S.P. 2025. *New additions to the Nemesia lineage from the Succulent Karoo.* Poster presented at the 50th South African Association of Botanists (SAAB) Annual Conference, WITS Rural Facility, South Africa. 1-3 July 2025.

Kaczur, D., Moloi, M.J., Mousavi, S.M.N. & Tóth, B. 2025. *Analysis of the effects of non-composted and composted sewage sludge on a fodder corn variety D.* Poster presented at the 50th South African Association of Botanists (SAAB) Annual Conference, WITS Rural Facility, South Africa. 1-3 July 2025.

Khoza, B., Bowden, N. & Moloi, M.J. 2025. *The effect of cysteine derivatives on the physio-biochemical defence responses of edamame under drought stress.* Poster presented at the 12th International Plant Protection Symposium. University of Debrecen, Hungary. 15 October 2025.

Mafa M.S., Mohase, L. & Gwanya, H. 2025. *Enzymological functions of glycoside-hydrolases from aphid saliva and the whole-body proteome explain the high virulence of RWASA biotype 5 compared to RWASA2.* Poster presented at the Ubuntu Proteomics Summer School, Balito, Kwa-ZuluNatal, South Africa. 2-7 February 2025.

Paudel, R., Muzhinji, N., Pandey, Panthee, D.R., Dean, R.A. & Louws, F.J. 2025. *De-novo genome assembly of Septoria lycopersici, the causal agent of Septoria leaf spot in tomatoes.* Poster presented at the APS Plant Health Conference, Honolulu, Hawaii. 2-5 August 2025.

Sabela, K. & Rothmann, L.A. 2025. *Sclerotinia head rot: the development and validation of a standard area diagram.* Poster presented at the International Symposium on Plant Pathogenic Sclerotiniaceae, Thessaloniki, Greece. 25-30 May 2025.

Shamuyarira, K., Shimelis, H., Chaplot, V. & Figlan, S. 2025. *Assessing Genetic Variability to Advance Grain Yield, Drought Adaptation and Biomass Allocation in Wheat (Triticum aestivum L.) Populations.* Poster presented at the Faculty of Natural and Agricultural Sciences (NAS) Research Conference, Bloemfontein, South Africa. 1-3 July 2025.

Shamuyarira K, Pule K, Endalamaw C, Shimelis H, Botha E, & Labuschagne M. 2025. *Initiation of a sorghum pre-breeding program in South Africa: Insights from two years of multi-environment trials.* Poster presented at the African Plant Breeders Association (APBA), Victoria Falls, Zimbabwe. 6-8 October 2025.

Terefe, T., Visser, B., Pretorius, Z.A. & Boshoff, W.H.P. 2025. *A decade of wheat leaf rust surveillance reveals seven new races of Puccinia triticina in South Africa.* Poster presented at the 17th ICRPMC, Vancouver, Canada. 15-20 June 2025

UNIVERSITY OF THE
FREE STATE
UNIVERSITEIT VAN DIE
VRYSTAAT
YUNIVESITHI YA
FREISTATA



UFS
NATURAL AND
AGRICULTURAL SCIENCES

Van der Merwe, R., Coetzee, E., Moloi, M.J., Jacoby, A. & Hlahla, J.M. 2025. *Progress in developing drought-tolerant vegetable-type soybean cultivars through breeding*. Poster presented at the InterDrought VIII Conference, La Serena, Chile. 17-21 November 2025

Van Deventer, M, Rothmann, L.A. van der Merwe, A., van Coller, G. Nowers, L. & Mostert, D. 2025. *Developing a low-cost inertial airborne spores sampler for effective Sclerotinia sclerotiorum detection with quantitative PCR*. Poster presented at the International Symposium on Plant Pathogenic Sclerotiniaceae, Thessaloniki, Greece. 25 – 30 May 2025.