



Centre for Coordination of Agricultural Research & Development for Southern Africa
 Centre De Coordination De La Recherche Et Du Développement Agricole De L'Afrique Australe
 Do Centro De Coordenação Da Investigação E Desenvolvimento Agrário Da África Austral

CURRICULUM VITAE

1. **Family name:** Marais
2. **First names:** Mariette
3. **Nationality:** South African
4. **Country of Residence:** South Africa

5. **Contact details:**

Employer	Agricultural Research Council
Work Address	Nematology Unit, Biosystematics, ARC-Plant Health and Protection, Private Bag X134, Queenswood, 0121
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6. **Education:**

Institution [Date from - Date to]	Qualification obtained:
University of Stellenbosch [1981-1984]	Bsc Agric
University of Stellenbosch [1985-1985]	Hons BSc Agric
Rand Afrikaans university (1986-1989)	MSc
University of Stellenbosch [1999-2001]	PhD Agric

7. **Language skills:** (1 - excellent; 5 - basic)

Language	Reading	Speaking	Writing
English	Good	Good	Good
Afrikaans	Good	Good	Good

8. **Membership of professional bodies:**

Suid-Afrikaanse Akademie vir Wetenskap en Kuns
 Nematological Society of southern Africa
 South African Council for National Sciences Professions

9. **Specialisation** (e.g. Agronomy, soil fertility, agricultural economics, veterinary science etc.)
Nematode Taxonomist, soil health assessment

10. **Present position:** Specialist researcher

11. **Key Skills:**

Nematology, Taxonomy, soil health

12. **Specific experience:**

Country	Date from - Date to
South Africa	1986.01.01 till present

13. **Professional experience (Formal employment and Assignments/consultancies)**

Date from - to	Location	Organisation	Position	Description of Duties and achievements
1986-1989	Pretoria, South Africa	Department of Agriculture	Junior Researcher	Karyology of <i>Meloidogyne</i> species [1986-1989]
1989-1991	Pretoria, South Africa	Department of Agriculture	Researcher	Biosystematics of <i>Helicotylenchus</i> Biogeography of the plant-parasitic nematodes of southern Africa
1992-2002	Pretoria, South Africa	Agricultural Reserch Council (ARC)	Researcher	Biosystematics of plant parasitic nematodes, the family Trichodoridae, subfamily <i>Meloidogyninae</i> the genus <i>Helicotylenchus</i> Biogeography of the plant-parasitic nematodes of southern Africa
2002-2018	Pretoria, South Africa	Agricultural Reserch Council (ARC)	Senior Researcher	Biosystematics of plant parasitic nematodes, the families Dolichodoridae, Trichodoridae, subfamily <i>Meloidogyninae</i> the genus <i>Helicotylenchus</i> Biogeography of the plant-parasitic nematodes of southern Africa Bio-Information Management: South African Plant-Parasitic Nematode Survey database and National Collection of Nematodes databases
2018-present	Pretoria, South Africa	Agricultural Reserch Council (ARC)	Specilist Researcher	Biosystematics of plant parasitic nematodes, the families Dolichodoridae, Trichodoridae,

Date from - to	Location	Organisation	Position	Description of Duties and achievements
				subfamily <i>Meloidogyninae</i> the genus <i>Helicotylenchus</i> Biogeography of the plant-parasitic nematodes of southern Africa Bio-Information Management: South African Plant-Parasitic Nematode Survey database and National Collection of Nematodes databases

14. Publications Condensed

- DECRAEMER, W. & MARAIS, M. 1993. Two new species of *Trichodorus* from South Africa, with a note on *T. petrusalberti* (Nemata: Trichodoridae). *Fundamental and Applied Nematology* 16: 211-214.
- DECRAEMER, W. & MARAIS, M. 2000. A new *Trichodorus* species from South Africa with notes on *T. vandenbergae* (Triplonchida: Diphtherophorina). *Annales Zoologici* 50: 193-203.
- GAIDASHOVA, S.V. OKECH, S., VAN DEN BERG, E., MARAIS, M., GATARAYIHA, C. M. & RAGAMA, P. E. 2004. Plant-parasitic nematodes in banana-based farming systems in Rwanda: species profile, distribution and abundance. *African Plant Protection* 10: 27-33.
- GIRGAN, C., SWART, A., MARAIS, M. & FOURIE, H. 2018. *Aphelenchoides* spp. (Nematoda: Aphelenchida) and *Panagrolaimus leperisini* (Nematoda: Rhabditida) found associated with grass seeds in the Telperion Nature Reserve, South Africa. *Zootaxa* 4370: 137-155.
- GIRGAN, C., MARAIS, M., SWART, A. & FOURIE, H. 2018. Die ekologie en diversiteit van nematodes van die Telperion Natuurreserveat, Mpumalanga, Suid-Afrika. *Suid-Afrikaanse Tydskrif vir Natuurwetenskappe en Tegnologie* 37 (1): (2018)
- GIRGAN, C., MARAIS, M., FOURIE, H., TIEDT, L. & SWART, A. 2019. Description of two new species, *Aphanolaimus strilliae* n.sp. (Nematoda: Aphanolaimidae) and *Makatinus africanus* n.sp. (Nematoda: Aporcelaimidae), and SEM observations on three known species from freshwater sources in the Telperion Nature Reserve (Mpumalanga, South Africa). *Zootaxa* 4651 (2): 201-234.
- DECRAEMER, W. & MARAIS, M. 2000. A new *Trichodorus* species from South Africa with notes on *T. vandenbergae* (Triplonchida: Diphtherophorina). *Annales Zoologici* 50: 193-203
- HABIG, J., LABUSCHAGNE, J., MARAIS, M., SWART, A. & CLAASSENS, S. 2018. The effect of a medic-wheat rotational system and contrasting degrees of soil disturbance on nematode functional groups and soil microbial communities. *Agricultural Ecosystem and Environment* 268: 103-114.
- JANION-SCHEEPERS, C., MEASEY, J., BRASCHLER, B., CHOWN, S.L., COETZEE, L., COLVILLEF, J.F., DAMES, J., DAVISI, A.B., DAVIES, S.J., DAVISJ, A.L.F., DIPPENAAR-

- SCHOEMAN, A.S., DUFFY, G.A., FOURIE, D., GRIFFITHS, C., HADDAD, H.R., HAMER, M., HERBERT, D.G., HUGO-COETZEE E.A. JACOBS, A., JACOBS, K., JANSEN VAN RENSBURG, C., LAMANI, S., LOTZ, L.N., LOUW, S. VDM., LYLE, R., MALAN, A.P., MARAIS, M., NEETHLING, J., NXELE, H.C., PLISKO, D.J. PRENDINI, L., RINK, A.N., SWART, A., THERON, P., TRUTER, M., UECKERMANN, E., UYS, V.M., VILLET, M.H., WILLOWS-MUNRO, S. & WILSON, J.R.U. 2016. Soil biota in a megadiverse country: Current knowledge and future research directions in South Africa. *Pedobiologia – Journal of Soil Ecology* 59: 12-174.
- JONES, R., MARAIS, M. & SWART, A., 2011. Aalwurms. Pages 195-201 in: Handleiding vir aartappelproduksie in Suid-Afrika. F.D.N. Denner & S.L. Venter (Eds). ARC, Potato South Africa, Pretoria, South Africa.
- MARAIS, M. 1990. Plant-parasitic nematodes in lucerne fields in South Africa. *Phytophylactica* 22: 449-452.
- MARAIS, M. 1993. On some *Helicotylenchus* Steiner, 1945 from South Africa (*Hoplolaimidae*: *Nemata*). *Phytophylactica* 25: 21-38.
- MARAIS, M. 1998. Some species of *Helicotylenchus* Steiner, 1945 from South Africa (*Nematoda*: *Hoplolaimidae*). *Fundamental and Applied Nematology* 21: 327-352.
- MARAIS, M. 2009. *Helicotylenchus imperialis* Rashid & Khan, 1974, a junior synonym of *H. multicinctus* (Cobb, 1893) Golden, 1956. *Nematology* 11: 309-310.
- MARAIS, M. & BOTHA-GREEFF, M.S. 1997. A new species of *Paratrichodorus* Siddiqi (*Nemata*: *Trichodoridae*) from Namibia, with a note on males of *P. minor* (Colbran) Siddiqi from South Africa. *African Plant Protection* 3: 17-22.
- MARAIS, M. & BUCKLEY, N.H. 1992. External morphology of eight South African *Helicotylenchus* species (*Hoplolaimidae*: *Nemata*). *Phytophylactica* 24: 297-306.
- MARAIS, M. & BUCKLEY, N.H. 1993. Plant-parasitic nematodes in forest soils in the Transvaal and Natal, South Africa. *South African Forestry Journal* 166:9-16.
- MARAIS, M., DECRAEMER, W. & QUÉNÉHERVÉ, P. 1997. Three *Trichodoridae* from French Guiana and Martinique (*Nemata*: *Diphtherophorinae*). *Nematropica* 26: 121-128.
- MARAIS M., GAIDASHOVA S. V. & TIEDT L. R. 2008. Species of the genus *Helicotylenchus* Steiner, 1945 from an indigenous forest in Rwanda, with description of *Helicotylenchus wilmae* sp.n. (*Nemata*: *Hoplolaimidae*). *Journal of Nematode Morphology and Systematics* 11: 109-118.
- MARAIS, M. & HEYNS, J. 1990. Host plant test with *Meloidogyne parityla* Kleynhans, 1986. *Phytophylactica* 22: 261-262.
- MARAIS, M. & KRUGER, J.C. DE W. 1991. The cytogenetics of some South African root-knot nematodes (*Heteroderidae*: *Nematoda*). *Phytophylactica* 23: 265-272.
- MARAIS, M., MEKETE, T. & TIEDT, L. R. 2005. Description of *Helicotylenchus gerti* sp.n. and new records of some species of *Helicotylenchus* (Steiner, 1945) from Ethiopia (*Nemata*: *Hoplolaimidae*). *Journal of Nematode Morphology and Systematics* 8: 39-49.

- MARAIS, M. & QUÉNÉHERVÉ, P. 1996. *Helicotylenchus macrostylus* n. sp. (Hoplolaimidae: Nemata) from French Guiana with notes on three known species. *Nematropica* 26: 39-45.
- MARAIS, M. & QUÉNÉHERVÉ, P. 1999. A new species of *Helicotylenchus* from French Guiana, with notes on two known species (Nemata: Hoplolaimidae). *Journal of Nematode Morphology and Systematics* 2: 81-88.
- MARAIS, M., QUÉNÉHERVÉ, P. TIEDT, L. R. & MEYER, A. J. 2003. Description of *Helicotylenchus marethae* n. sp., with redescrptions of some *Helicotylenchus* species (Nemata: Hoplolaimidae) from South Africa and Martinique. *Journal of Nematode Morphology and Systematics* 5: 1-19.
- MARAIS, M. & SWART, A. 1996. Plant-parasitic nematodes of the Lower Orange River irrigation area, South Africa. *African Plant Protection* 2: 25-30.
- MARAIS, M. & SWART, A. 1998. Plant nematodes in South Africa. 1. Caledon area, Western Cape Province. *African Plant Protection* 4: 27-33.
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- MARAIS, M. & SWART, A. 2001. Plant nematodes in South Africa. 3. Douglas area, Northern Cape Province. *African Plant Protection* 7: 33-38.
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- MARAIS, M. & SWART, A., 2010. Burrowing nematode. Page 5 In: M. Kieser, S. Mwate, S. & J. Mulilamiti (Eds.). *Field Handbook. Pests and diseases of phytosanitary & economic importance in the SADC region*. SACD Secretariat, FAO.
- MARAIS, M. & SWART, A., 2012. Chapter 15. Nematodes. Pages 205-210 in: *Guide to Potato production in South Africa*. Pages Afrika. F.D.N Denner, S.L. Venter & J.G. Niederwieser (Eds). *Potato South Africa*, Pretoria, South Africa.
- MARAIS, M. & SWART, A. 2013. Plant nematodes in South Africa. 11. Checklist of plant nematodes of the protected areas of KwaZulu-Natal. *Koedoe* 55(1), Art. #1086, 2 pages plus online Appendix: <http://dx.doi.org/104102?koedoe.v55i1.1086-1>.
- MARAIS M. & SWART A., 2014. Plant nematodes in South Africa. 12. Checklist of plant nematodes of the protected areas of the Eastern Cape Province. *Koedoe*, 56 (1) 56(1), Art. #1220: 3.
- MARAIS, M., SWART, A. & BUCKLEY N.H. 2017. Overview of the South African Plant-Parasitic Nematode Survey (SAPPNS). Pages 451-458 in: *Nematology in South Africa: a view from the 21 st Century*. H. Fourie, VW Spaull, RK Jones, MS Daneel, D de Waele (Eds), Springer International Publishing, Switzerland.
- MARAIS, M., SWART, A., FOURIE, H., BERRY, S.D., KNOETZE, R. & MALAN, A.P. 2017. Techniques and Procedures. Pages 73-117 in: *Nematology in South Africa: a view from the 21 st Century*. H. Fourie, VW Spaull, RK Jones , MS Daneel, D de Waele (Eds), Springer International Publishing, Switzerland.

- MARAIS, M., SWART, A. & HEYNS, J. 1995. A new species and a new record of Dorylaimida (De Man) Pearse (Nemata) from the Amazonas Province, Brazil. *African Plant Protection* 1: 19-24.
- MARAIS, M., SWART, A., KNOETZE, R. & POFU, M. 2015. Plant nematodes in South Africa. 13. A checklist of nematodes associated with potatoes. *Chips* November/December 2015: 38-43.
- MARAIS, M. & VAN DEN BERG, E. 1996. Plant nematodes in the Bergplaas Plantation, Western Cape Province with a description of a new *Criconema* species and notes on two known species of Criconematidae. *South African Forestry Journal* 177: 1-6.
- MARAIS, M., VAN DEN BERG, E., QUÉNÉHERVÉ, P. & TIEDT, L.R. 2000. Description of *Helicotylenchus kermarreci* n.sp., with notes on some *Helicotylenchus* Steiner, 1945 and a *Rotylenchus* Filip'ev, 1936 species (Nemata: Hoplolaimidae) from the Guadeloupe Islands, French West Indies. *Journal of Nematode Morphology and Systematics* 2: 159-172. (1999 published 2000).
- MARAIS, M., VAN DEN BERG, E., SWART, A., & TIEDT, L. R. 2004. Plant nematodes in South Africa. 7. A checklist of plant nematodes from the Fynbos Biome, with a description of *Helicotylenchus curatus*. *Koedoe* 47: 67-78.
- Mbatyoti, A., Daneel, M.S., Swart, A., Marais, M., De Waele, D. & Fourie, H., 2020. Plant-parasitic nematode assemblages associated with glyphosate tolerant and conventional cultivars in South Africa. *African Zoology* 2020, 55 (1):1-15.
- Mbatyoti, A., Daneel, M.S., Swart, A., Marais, M., De Waele, D.D. & Fourie, H., 2019. Case study of effect of glyphosate application on plant-parasitic nematodes associated with a soyabean-maize rotation system in South Africa. *South African Journal of Plant and Soil* 2019: 1-4.
- Musedeli, J.N., Simelane, D.O., Hill, M.P. & Marais, M., 2019. Additive interaction between a root-knot nematode *Meloidogyne javanica* and a root-feeding flea beetle *Longitarsus bethae* on their host *Lantana camara*. *Pest Management Science* 2019 (5493): 1-7.
- ONKENDI, E.M., KARIUKI, G.M., MARAIS, M. & MOLELEKI, L.N. 2014. The threat of root-knot nematodes (*Meloidogyne* spp.) in Africa: a review. *Plant Pathology* 63: 727-737.
- RASHIDIFARD, M., FOURIE, H., DANEEL, M.S. AND MARAIS, M. 2019. Morphological and morphometrical identification of *Meloidogyne* populations from various crop production areas in South Africa with emphasis on *M. enterolobii*. *Zootaxa*, 4658: 251-274.
- RASHIDIFARD, M., MARAIS, M., DANEEL, M. S. AND FOURIE, H. 2019. Reproductive potential of South African thermophilic *Meloidogyne* populations, with special reference to *Meloidogyne enterolobii*. *Nematology*, 21: 913-921.
- RASHIDIFARD, M., MARAIS, M., DANEEL, M.S., MIENIE, C., AND FOURIE, H. 2019. Molecular characterisation of *Meloidogyne enterolobii* and other *Meloidogyne* spp. from South Africa. *Tropical Plant Pathology*, 44:213-224.
- SCHRECK REIS, C., VIEIRA DOS SANTOS, MC., MARAIS, M., N. DE A. SANTOS, M.S., DUYTS, H., FREITAS, H., VAN DER PUTTEN W.H., O. ABRANTES, I.A. .2010 First record of *Helicotylenchus varicaudatus* Yuen, 1964 (Nematoda: Hoplolaimidae) parasitizing

- Ammophila arenaria* (L.) Link in Portuguese coastal sand dunes. *Phytopathologia Mediterranea* 49: 2112-226.
- SHOKOOHI, E., MARAIS, M., FOURIE, H. & PANAHI, H., 2018. Morphological and molecular characterization of three *Helicotylenchus* species from Iran. *Zootaxa* 4388 (2): 207-220.
- SHOKOOHI, E., PARASTAR, Z., PANAHI, H., ABBASPOUR, S., FOURIE, H., & MARAIS, M. First report of *Meloidogyne hispanica* in Iran. *Australasian Plant Disease Notes* 11(1), 1-3.
- SWART, A. & MARAIS, M. 2017. The Kleynhans Manual. Collecting and Preserving Nematodes. Plant Protection Research Institute Handbook No16. Biosystematics Division, ARC-Plant Protection Research Institute, Pretoria, 60 pp.
- SWART, A., MARAIS, M., MOUTON, C. & DU PREEZ, G. 2017. Non-parasitic, Terrestrial and Aquatic Nematodes. Pages 419-447 in : *Nematology in South Africa: a view from the 21 st Century*. H. Fourie, VW Spaull, RK Jones, MS Daneel, D de Waele (Eds), Springer International Publishing, Switzerland.
- SWART, A., MARAIS, M. & SCHOEMAN, A. S. 2000. Plant nematodes in South Africa. 2. Golf-course putting greens. *African Plant Protection* 6: 35-39
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- VAN DEN BERG, E & MARAIS, M. 1995. New species of *Tylenchina* Chitwood (Nemata) from the Amazonas Province, Brazil. *African Plant Protection* 1: 25-39.
- VAN DEN BERG, E., MARAIS, M., GAIDASHOVA, S. & TIEDT, L.R. 2003. Hoplolaimidae Filip'ev, 1934 (Nemata) from Rwandan banana fields. *African Plant Protection* 9:31-42.
- VAN DEN BERG, E., MARAIS, M., KANDJI, S., MOUNPORT, D., N'DIAYE, B. & CADET, P. 2002. Plant-parasitic nematodes associated with maize-bean intercropping systems in Kenya. *African Plant Protection* 7:85-89. (2001, published in 2002).
- VAN DEN BERG, E., MARAIS, M. & SWART, A. 2017. Nematode Morphology and Classification. Page 33-71 in: *Nematology in South Africa: a view from the 21 st Century*. H. Fourie, VW Spaull, RK Jones, MS Daneel, D de Waele (Eds), Springer International Publishing, Switzerland.
- VAN DEN BERG, E., MARAIS, M. & TIEDT, L.R. 2003. Plant nematodes in South Africa. 5. Plant nematodes from the Gouekrans area of the Swartberg Nature Reserve, with descriptions of one new and one known *Hemicyclophorinae* (Nemata). *African Plant Protection* 9:43-52.
- VAN DEN BERG, E., MARAIS, M. & TIEDT, L.R. 2007. Plant nematodes in South Africa. 9. Check-list of plant nematodes from the Goegap and Witsand Nature Reserves, Northern Cape Province, with a description of a new *Rotylenchus* species (Hoplolaimidae: Nematoda). *African Plant Protection* 13: 28-35.
- VAN DEN HOOGEN, J., GEISEN, S., ROUTH, D, FERRIS, H, TRAUNSPURGER, W., WARDLE, D.A., DE GOEDE, R.G.M., ADAMS, B.J., AHMAD, W., ANDRIUZZI, W.S., BARDGETT, R.D.,

- BONKOWSKI, M., CAMPOS-HERREIRA, R., CARES, J.E., CARUSO, T., DE BRITO CAIXETA, L., CHEN, X., COSTA, S.R., CREAMER, R., DA CUNHA CASTRO, J.M., DAM, M., DJIGAL, D., ESCUER, M., GRIFFITHS, B.S., GUTIERREZ, C., HOHBERG, K., KALINKINA, D., KARDOL, P., KERGUNTEN, P., KORTHALS, G., KRASHEVSKA, V., KUDRIN, A.A., LI, Q., LIANG, W., MAGILTON, M., MARAIS, M., MARTIN, J.A.R., MATVEEVA, E., MAYAD, E.H., MULDER, C., MULLIN, P., NEILSON, R., NGUYEN, T.A.D., NIELSEN, U.N., OKADA, H., RIUS, J.E.P., PAN, K., PENEVA, V., PELLISSIER, L., SILVA, J.C.P., PITTELOUD, C., POWERS, T.O., POWERS, K., QUIST, C.W., RASMANN, S., SÁNCHEZ MORENO, S., SCHEU, S., SETÄLÄ, H., SUSCHUK, A., TIUNOV, A.V., TRAP, J., VAN DER PUTTEN, W., VESTERGÅRD, M., VILLENAVA, C., WAYENBERGE, L., WALL, D.H., WILSCHUT, R., WRIGHT, D.G., YANG I. & CROWTHER, T.W. 2019. Soil nematode abundance and functional group composition at a global scale. *Nature*, 24 July 2019 1-15.
- VISAGIE, M., MIENIE, C.M.S., MARAIS, M., DANEEL, M., KARSSSEN, G. & FOURIE, H., 2018. Identification of *Meloidogyne* spp. associated with agri- and horticultural crops in South Africa. *Nematology* 20: 1-5.

Professional Referees

Summary of research responsibilities

Biosystematics of plant parasitic nematodes, the families Dolichodoridae, Trichodoridae, subfamily *Meloidogyninae* the genus *Helicotylenchus*.

Biogeography of the plant-parasitic nematodes of southern Africa

Bio-Information Management: South African Plant-Parasitic Nematode Survey database and National Collection of Nematodes databases