

# ***CURRICULUM VITAE: DAVID JURY MC DONALD***

## **EDUCATIONAL QUALIFICATIONS**

Last school attended:	Florida Park High School Florida, Gauteng (1969 - 1973)
Highest standard passed:	Matriculated in the First Class
Subjects passed:	English, Afrikaans, German, Mathematics, Science, Biology, History
Leadership roles:	Founder chairman of the Wildlife Adventure Club, school prefect Wilderness Leadership Course (1972)
Extra-mural activities:	Debating, school orchestra, Wildlife Adventure Club, soccer, cricket

## **HIGHER EDUCATION**

University attended:	University of the Witwatersrand, Johannesburg (1974 - credits obtained for Botany I and Zoology I)
	University of Natal, Pietermaritzburg (1975 - 1978)
Degrees obtained and major subjects passed:	(a) B.Sc. (1977) Botany III Entomology II (Third year course)
	(b) B.Sc. Hons. (1978) Botany (Ecology /Physiology)
	(c) M.Sc - (Botany), University of Cape Town, 1983. Awarded for thesis entitled: 'The vegetation of Swartboschkloof, Jonkershoek, Cape Province'.
	(d) PhD (Botany), University of Cape Town, 1995. Thesis title: 'Phytogeography, endemism and diversity of the fynbos of the southern Langeberg'.
Leadership roles:	Vice-chairman of BioSoc (Wits 1974) Chairman of Wildlife Society (UNP 1977)
Extra-mural activities (University):	BioSoc, Wildlife Society, social squash, Mountain Club

## EMPLOYMENT HISTORY

Employment: January 1981—July 2000

Employer: National Botanical Institute  
Private Bag X7  
CLAREMONT  
7735

(Prior to amalgamation: Botanical Research Institute, from January 1981 to January 1990)

Present post: Principal Scientist  
(from 1 January 1996)

Work description: (i) Vegetation ecological studies of southern African mountain ecosystems, especially Cape Mountain Fynbos. These studies have been mainly descriptive (Braun-Blanquet approach)

(ii) Other studies: plant species diversity, gradient analysis, endemism, phytogeography and fynbos pollination biology.

(iii) Project management and coordination: Presently Project Coordinator of the National Vegetation Map Project (VEGMAP) which aims to create a database of all available vegetation data for southern Africa and produce a new vegetation map.

Management responsibilities: Prior to the amalgamation of the Botanical Research Institute with the National Botanical Gardens to form the National Botanical Institute (NBI) I was in charge of the Ecology Section of the research unit at Stellenbosch. During that time I had two researchers and one technician reporting to me (1986—1990).

Projects: 1981 - 1984: Study of the vegetation of Swartboskloof, Jonkershoek.

1985 - 1995: Studies of the vegetation of the Langeberg Mountains.

1996 – July 2000: Project Co-ordinator for the National Vegetation Map of South Africa Project (VEGMAP). Management responsibilities involved networking widely throughout South Africa with non-NBI researchers involved with the VEGMAP Project. I had part-time assistants associated with this project.

Other work-related activities additional to

main tasks: Organised all the pre- and post-congress tours and mid-conference field excursions for the Fifth Botanical Gardens Conservation International Congress held at Kirstenbosch, September 1998.

Employment: August 2000 – December 2005 Deputy Director & later Director: Botanical & Communication Programmes  
Botanical Society of South Africa  
Private Bag X 10  
Claremont  
7735  
South Africa

## Consulting

- Botanical consulting as part of Afridev Consultants team on the Lesotho Highlands Water Project. Involved with field work (establishment of vegetation monitoring plots for the Phase 1B project) and data analysis and reporting for vegetation monitoring of Phase 1A and Phase 1B projects (1995—2000).
- Consulting for numerous small development projects in the Western Cape.

## Tour guiding:

In 1988 I led a Botanical Society Kirstenbosch Branch Spring Wildflower Tour to the Langeberg. I have also led three botanical tours to KwaZulu-Natal Drakensberg & Lesotho and two to Namaqualand for the Alpine Garden Society (UK) and two to KwaZulu-Natal Drakensberg & Lesotho for Quest Nature Tours (Canada). In the context of my job at the National Botanical Institute I led numerous botanical excursions and tours in the western and southern Cape, notably for the Botanic Gardens Conservation International Conference in 1998 (held at Kirstenbosch). (See above).

## ATTENDANCE OF CONFERENCES, SYMPOSIA AND WORKSHOPS

### International:

1990: International Geraniaceae Symposium, Stellenbosch, South Africa.

1990: NBI Representative at Chelsea Flower Show, London, UK

1993: Biotic Diversity Symposium & Workshop, Cape Town, South Africa, September 1993.

1996: Southern Alpines '96, Christchurch, New Zealand, January 1996 (Invited keynote speaker)

1997: 15<sup>th</sup> AETFAT (Association for the Taxonomic Study of the Flora of Tropical Africa) Congress, University of Zimbabwe, Harare, Zimbabwe, February 1997.

1997: 40<sup>th</sup> Annual Symposium of the International Association of Vegetation Scientists, University of South Bohemia, Ceske Budejovice, Czech Republic, August 1997.

- 1997: European Conference on Environmental and Societal Change in Mountain Regions, University of Oxford, United Kingdom, December 1997.
- 1998: Fifth Botanical Gardens International Congress, Kirstenbosch Botanical Gardens, September 1998.
- 2000: World Mountain Forum. Chambery, France, June 2000.
- 2000: International Conference on Mountain Biodiversity in Rigi-Kaltbad, Switzerland, September 2000.
- 2001: Keynote speaker at the Winter Study Weekend, Victoria Rock and Alpine Garden Society, Victoria, British Columbia, Canada, March 2001.
- 2001: Addressed groups of the Alpine Garden Society (UK) in Dorset, and Dublin (Ireland) – March 2001
- 2002: African Botanic Gardens Congress “Partnerships and Linkages” – Durban Botanic Gardens, South Africa, 24 – 29 November 2002.
- 2003: Invited speaker for North American Rock Garden Society, Speakers Tour Project – a series of lectures delivered in the following towns and cities: San Francisco Ca., Sonora Ca., Etna Ca., Medford Or., Corvallis Or., Portland Or., Seattle Wa., Victoria B.C., Vancouver B.C. (11 April – 16 May 2003).

**National:**

- Conference entitled, 'Conserving Biotic Diversity in Southern Africa', University of Cape Town, June 1988.
- Conference of the South African Irrigation Institute, Stellenbosch, March 1989. (Invited speaker) (Address entitled, 'The fynbos of the Cape mountain catchment areas'.)
- Conference of the South African Society for Quaternary Research, Durban, 1989.
- Conference entitled, 'Biotic Diversity and the Function of Mediterranean-type Ecosystems', University of Cape Town, September 1992.
- Forest Biome Annual Research Workshops and Meetings: 1983, 1984, 1986, 1988.
- Karoo Biome Annual Research Meeting, Elsenburg, October 1990.
- South African Association of Botanists Annual Congresses: 1983, 1984, 1985, 1987, 1988, 1989, 1990, 1991 & 1993, 2005. (Various venues)
- Symposium: 'Fifty years of Mountain Catchment Research in South Africa', Stellenbosch, November 1987.
- 1999: South African Wildlife Management Association Symposium, George, September 1999.

**Local:**

- Table Mountain 2000 Symposium, Kirstenbosch, June 1989.
- Fynbos Biome Annual Research Meetings: 1981 - 1990. (Various venues in the Western Cape).
- Fynbos Forum meetings: 1991-1999. (Various venues in the Western Cape)

## PUBLICATIONS

### Senior author:

- McDonald, D.J.** 1982. A spring visit to Zoo Ridge. *Veld & Flora* 68: 79—80.
- McDonald, D.J.** 1983. *The Vegetation of Swartboschkloof, Jonkershoek, Cape Province*. Unpublished M.Sc. thesis, University of Cape Town.
- McDonald, D.J.** 1985. The plant communities of Swartboschkloof, Jonkershoek, South Africa. *South African National Scientific Programmes Report No. 104*. CSIR, Pretoria.
- McDonald, D.J.** 1985. Swartboschkloof - have you been there? *Veld & Flora* 71:70—73.
- McDonald, D.J.** 1987. Ordination by detrended correspondence analysis (DCA) of the vegetation of Swartboschkloof, Jonkershoek, Cape Province. *Bothalia* 17: 121—129.
- McDonald, D.J.** 1987. The Marloth photographic collection - a legacy. *Veld & Flora* 73: 94—95.
- McDonald, D.J.** & Oliver, E.G.H. 1987. *Erica barrydalensis* L.Bol - re-discovery of a rare species. *Veld & Flora* 73: 101—102.
- McDonald, D.J.** & Morley, M. 1988. A checklist of the flowering plants and ferns of Swartboschkloof, Jonkershoek, Cape Province. *Bothalia* 18: 261—270.
- McDonald, D.J.** 1988. A synopsis of the plant communities of Swartboschkloof, Jonkershoek, Cape Province. *Bothalia* 18: 233—260.
- McDonald, D.J.** 1989. The Fynbos of the Cape Mountain Catchment Areas. *S.A. Irrigation* 11: 7—9.
- McDonald, D.J.** 1989. *Penaea dahlgrenii* Rourke - a species with possible horticultural potential. *Veld & Flora* 75: 119—120.
- McDonald, D.J.** 1989. Table Mountain 2000 Symposium. *Bulletin of the South African Institute of Ecologists* 8: 87—91.
- McDonald, D.J.** 1991. Tapping of aloes in road reserves at Herbertsdale. *Proceedings of 'Corridor Conservation' Workshop*, Botanical Society of South Africa, September 1991, Cape Town.
- McDonald, D.J.** 1992. The Confusing Confetti Bush. *Veld & Flora* 78: 44—46.
- McDonald D.J.** 1993a. The vegetation of the southern Langeberg, Cape Province. 1. The plant communities of the Boosmansbos Wilderness Area. *Bothalia* 23: 129—151.
- McDonald, D.J.** 1993b. The vegetation of the southern Langeberg, Cape Province. 2. The plant communities of the Marloth Nature Reserve. *Bothalia* 23:153—174.
- McDonald, D.J.** 1993c. The vegetation of the southern Langeberg, Cape Province. 3. Plant communities of the Bergfontein, Rooiwaterspruit and Phesantfontein areas. *Bothalia* 23: 239—263.
- McDonald, D.J.** & Van der Walt, J.J.A. 1992. Observations on the pollination of *Pelargonium tricolor*, section *Campylia* (Geraniaceae). *South African Journal of Botany* 58: 386—392.

- McDonald, D.J.** & Powrie, F.J. 1992. Pelargonium tricolor: a colourful candidate for cultivation. *Veld & Flora* 78: 68—71. (Reprinted with permission in The Journal of the Australian Geranium Society Inc. 33: 8—12, October 1993).
- McDonald, D.J.** Oliver, E.G.H. Linder, H-P. & Boucher, C. 1993. Is there alpine vegetation on the mountains of the south-western Cape? *Veld & Flora* 79: 17—19.
- McDonald, D.J.** & Snijman, D. 1994. Touwsberg '93 - Getting high on a mountain. *Veld & Flora* 80: 6—9.
- McDonald, D.J.**, Donaldson, J.S. & Grier, L. 1994. Mountain Strawberries. *Veld & Flora* 80: 53—55.
- McDonald, D.J.** 1994. The Swamp Daisy and friends. *Veld & Flora* 80: 78—80.
- McDonald, D.J.** 1994. Smoke treatment of seeds enhances germination. *Hortagro* 1: 12—13.
- McDonald, D.J.** 1994. Notes on Aloe gracilis var. decumbens. *Aloe* 31: 46—47.
- McDonald, D.J.** 1994. Botanical exploration in the southern Langeberg. *Journal of the Mountain Club of South Africa* 97: 17—21.
- McDonald, D.J.** 1995. *Phytogeography, endemism and diversity of the fynbos of the southern Langeberg*. Unpublished PhD thesis, University of Cape Town.
- McDonald, D.J.** & Cowling, R.M. 1995. Towards a profile of an endemic mountain fynbos flora: Implications for conservation. *Biological Conservation* 72: 1—12.
- McDonald, D.J.** Juritz, J.M. Cowling, R.M. & Knottenbelt, W.J. 1995. Modelling the biological aspects of local endemism in South African Fynbos. *Plant Systematics and Evolution* 195: 137—147.
- McDonald, D.J.**, Cowling, R.M. & Boucher, C. 1996. Vegetation-environment relationships on a species-rich coastal mountain range in the fynbos biome (South Africa). *Vegetatio* 123: 165—182.
- McDonald, D.J.** 1996. The National Vegetation Map Project. *Veld & Flora* 82: 98—99.
- McDonald, D.J.** 1997. The conservation of the southern African alpine zone and its contribution to alpine gardening. *Proceedings of Southern Alpines '96 Conference*, Christchurch, New Zealand. pp 116—124.
- McDonald, D.J.** 1997. The National Vegetation Map of South Africa Project. *SABONET News* 2: 68—69.
- McDonald, D.J.** Anderson, J.H. and van Rooy, J. 1997. Book Review: Biodiversity and Conservation of Neotropical Montane Forests, edited by S.P. Churchill, H. Balslev, E. Forero & L. Luteyn. *Bothalia* 27: 98—99.
- McDonald, D.J.** 1997. VEGMAP: a collaborative project for the revision of the vegetation map of southern Africa. *South African Journal of Science* 93: 424—426.
- McDonald, D.J.** 1998. Book review: Vegetation of Southern Africa, edited by R.M. Cowling, D.M. Richardson & S.M. Pierce. 1997. Cambridge University Press. *Bothalia* 28: 125—127.
- McDonald, D.J.** 1998. Book review: Vegetation of Southern Africa, edited by R.M. Cowling, D.M. Richardson & S.M. Pierce. 1997. Cambridge University Press. *South African Journal of Science* 94: 407—408.

- McDonald, D.J.** 1998. Book review: ENGEN Afrikatourism Guide. A guide for environment-orientated travel in the Western Cape Province of South Africa. 1. Cape Metropole, Winelands, West Coast, Swartland and Sandveld, by Mike & Ann Scott. 1998. Open Africa in association with Engen. *Veld & Flora* 84: 103
- McDonald, D.J.** 1998. The enigma of the Geissolomataceae. *Veld & Flora* 84: 122—123.
- McDonald, D.J.** 1999. The montane flora of the southern Langeberg, South Africa: a checklist of the flowering plants and ferns. *Bothalia* 29: 119—137.
- McDonald, D.J.** & Boucher, C. 1999. Towards mapping the fynbos for the revised vegetation map of South Africa. In: Timberlake, J. & Kativu, S. (eds.) *African Plants: Biodiversity, Taxonomy and Uses*, pp. 195—206. Royal Botanic Gardens, Kew.
- McDonald, D.J.** Boucher, C. & Oliver, E.G.H. 2000. Hugh Colin Taylor (1925-1999). *Bothalia* 30: 115—119.
- McDonald, D.J.** 2000. Floral secrets of the Bontebok National Park. *Veld & Flora* 86: 70—72.
- McDonald, D.J.** Midgley, G.F. & Powrie, L. 2002. Scenarios of plant diversity in South African mountain ranges in relation to climate change. In: Körner, C. & Spehn, E.M. 2002. *Mountain Biodiversity: A Global Assessment*, pp. 261—266. Parthenon Press, London.

**Co-author:**

- Boucher, C. Erasmus, D. Marais, C. & **McDonald, D.J.** 1995. An inventory of sources of data pertaining to the Fynbos Biome. Volume 1. *Foundation for Research Development Programme Report Series No. 19*.
- Cowling, R.M. Campbell, B.M. Mustart, P. **McDonald, D.J.** Jarman M.L. & Moll E.J. 1988. Vegetation classification in a floristically complex area: the Agulhas Plain. *South African Journal of Botany* 54: 290—300.
- Cowling, R.M. & **McDonald, D.J.** 1994. Local endemism and plant conservation in South African Fynbos. *Noticiario de Biologia* 2 (3): 18 [Proceedings, MEDECOS 7 Conference, Vina del Mar, Chile].
- Cowling, R.M. & **McDonald, D.J.** 1998. Chapter 10. Local endemism and plant conservation in the Cape Floristic Region. In: Rundel, P.W., Montenegro, G. & Jaksic, F.M. (eds), *Landscape Disturbance and Biodiversity in Mediterranean-Type Ecosystems*. pp. 171—188. Springer Verlag, Berlin, Heidelberg.
- Erasmus, D. Boucher, C. Marais, C. & **McDonald, D.J.** 1996. An inventory of sources of data pertaining to the Fynbos Biome. Volume 2. *Foundation for Research Development Programme Report Series No. 28*.
- Linder, H.P. Vlok, J.H. **McDonald, D.J.** Oliver, E.G.H. Boucher, C. Van Wyk, B.-E. & Schutte, A. 1993. The high altitude flora and vegetation of the Cape Floristic Region, South Africa. *Opera Botanica* 121: 247—261.
- Midgley, G.F. Hannah, L. Roberts, R. **McDonald, D.J.** & Allsopp, J. 2001. Have Pleistocene climatic cycles influenced species richness in the greater Cape Mediterranean Region? *Journal of Mediterranean Ecology* 2: 137—144.

- Musil C.F., Rutherford M.C., Powrie L.W., Bjorn L.O. & **McDonald D.J.** 1999. Spatial and temporal changes in South African solar Ultraviolet-B exposure: Implications for Threatened Taxa. *Ambio* 28:450—456.
- Rourke, J.P. & **McDonald, D.J.** 1989. A new species of *Penaea* (Penaeaceae), from the Langeberg range, southern Cape. *South African Journal of Botany* 55: 400—404.
- Van der Walt, J.J.A. **McDonald, D.J.** & Van Wyk, N. 1990. A new species of *Pelargonium* with notes on its ecology and pollination biology. *South African Journal of Botany* 56: 467—470.
- Van Staden, J. Choveaux, N.A. Gilliland, M.G. **McDonald, D.J.** & Davey, J.E. 1981. Tissue culture of South African Proteaceae. I. Callus and proteoid rootlet formation on cotyledonary explants of *Protea neriifolia*. *South African Journal of Science* 77: 493—495 .
- Van Wilgen B.W. & **McDonald, D.J.** 1992. Chapter 1. The Swartboskloof Experimental Site. In: Van Wilgen B.W., Richardson D.M., Kruger F.J. & Van Hensbergen H.J. (eds.), *Fire in South African Mountain Fynbos; Ecosystem, Community and Species response at Swartboskloof*. pp. 1—20. Springer Verlag, Berlin, Heidelberg.

**Unpublished symposium papers, posters and presentations:**

- McDonald, D.J.** 1985. An evaluation of the use of detrended correspondence analysis (DCA) in studies of Cape mountain vegetation. Paper for 10th SAAB Congress, Potchefstroom.
- McDonald, D.J.** 1987. The role of vegetation surveys for management and research in Cape mountain catchments. Poster for symposium: 'Fifty years of research in Mountain Catchments of South Africa.' Fruit & Fruit Technology Research Institute, Stellenbosch.
- McDonald, D.J.** 1989. Endemism and disjunctions in the flora of the Langeberg, Cape Province. SASQUA Conference, Durban.
- McDonald, D.J.** 1989. *Penaea dahlgrenii* Rourke - A new Langeberg endemic. Poster for 15th SAAB Congress, Pretoria.
- McDonald, D.J.** 1990. The status of classification of Cape Mountain Fynbos. Paper for 16th SAAB Congress, Grahamstown.
- McDonald, D.J.** 1994. Vegetation classification of the fynbos of the Langeberg: Importance for management. Paper presented at the Project Discussion Meeting, Cape Nature Conservation, Milnerton, 29 November 1994.
- McDonald, D.J.** 1997. The vegetation map of South Africa – resource for the twenty-first century. Paper presented at the 40<sup>th</sup> Annual Symposium of the International Association of Vegetation Scientists, Czech Republic, August 1997.
- McDonald, D.J.** 1997. The diversity of southern African mountain ecosystems. Poster presented at the European Conference on Environmental and Societal Change in Mountain Regions, University of Oxford, UK, December 1997
- McDonald, D.J.** 1999. The National Vegetation Map of South Africa – a tool for vegetation management in the 21<sup>st</sup> Century. Paper presented at the South African Wildlife Management Association Symposium, George, September 1999.
- Juritz, J.M. Trinder-Smith, T.H. & **McDonald, D.J.** 1995. Modelling when the statistical population probabilities are known, in a study of endemism. (Statistics Symposium)



## APPOINTMENTS

Committee appointments:

1987—1990, Appointed as representative of the Botanical Research Institute on the Flora Conservation Committee of the Botanical Society of S.A.

1987—1988, Western Cape representative on the South African Syntaxonomic Nomenclature Committee.

1990—1991, South African Association of Botanists Western Cape Branch committee member. Chairman in 1991.

1993—2001, Fynbos Forum Steering Committee member

1995—2000, Research Associate, - Institute for Plant Conservation, Botany Department, University of Cape Town.

1997 – Invited to serve on the Flora Conservation, *Veld & Flora* Management and Publication Committees of the Botanical Society of South Africa.

1998 – Elected as Chairman of the Flora Conservation Committee of the Botanical Society of South Africa for three year term.

1998 – Organizing Committee of the Fifth Botanical Gardens Conservation Congress, Kirstenbosch, Cape Town.

1998– Invited to serve as a member of editorial board of *Phytocoenologia* – International Journal of Vegetation Ecology.

2002-2005 – Member of the Working for Water – SANA Partnership Steering Committee

2003 – Member of the Paarl Mountain Advisory Committee

2003 – South Africa representative on the Ad Hoc Technical Expert Group on Mountain Biodiversity for the Convention on Biodiversity (IUCN)

## PREVIOUS EXPERIENCE

Name of organization:	Desert Ecological Research Unit
Address of organization:	Namib Desert Research Station, P.O. Walvis Bay, Namibia
Type of organization:	Biological research
Post held:	Student research assistant to Dr M.K. Seely
Name of organization:	Kwa Zulu-Natal Nature Conservation Services (formerly Natal Parks Board)
Address of organization:	P.O. Box , 13053, Cascades, 3202
Type of organization:	Nature conservation

Post held:

December 1976: Student assistant to Dr Peter Goodman, Mkuze Game Reserve.

December 1977 / January 1978: Student employment at Itala Nature Reserve (Natal Parks Board) under the guidance of Dr O. Bourquin.

Name of organization:

South African Defense Force

Address of organisation:

Natal Command, Durban

Type of organisation:

Military

Post held:

Lecturer

(January 1979—December 1980)

I entered the army in January 1979 and completed the first three months of basic training. Thereafter I was sent to Natal Command from where I was seconded to Cwaka Agricultural College, Enseleni, KwaZulu-Natal (now the Owen Sithole College of Agriculture). I lectured botanical subjects to the nature conservation students at the college for the remaining 21 months of my national service.