

# University of Cape Town

## Research Report 2011

### Faculty of Science

### Department of Botany

(Including the Bolus Herbarium and the Institute for Plant Conservation)

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**Head of Department: Professor J.J. Midgley**

#### **Departmental Profile**

Botany is a vibrant department, which strives towards the development of a centre of excellence for research and teaching of the ecology, evolution, physiological ecology and systematics of marine and terrestrial plants of southern Africa. The department includes two research units, the Bolus Herbarium and the Plant Conservation Unit, and is also home to the Department of Environmental Affairs & Tourism Chief Directorate: Marine & Coastal Management. Research thrusts include plant population, community and reproductive ecology, systematics, floristics, biogeography and evolutionary biology of the unique Cape Floral Kingdom and its response to different land use practices, ecology and economics of marine and freshwater algae, the ecophysiology of plant responses to pollution and global change, the physiology of plant nitrogen-fixing symbioses and dendrochronology and palaeoecology. The Plant Conservation Unit focuses on sustainable land use, restoration and palaeoecology/environmental history with an emphasis on the conservation of the vegetation of the winter rainfall region of South Africa, while the Bolus Herbarium is researching the taxonomy of and curating a specimen collection of over a third of a million southern African species. The staff is also active on Research Councils, policy-making forums and advisory committees.

#### **Departmental Statistics**

##### **Permanent and long-term contract staff**

Professors	5
Associate Professors	3
Senior Lecturers	2
Lecturers	2
Scientific Staff	2
Technical Support Staff	7
Administrative and Clerical Staff	3
<b>Total</b>	<b>24</b>

##### **Honorary Staff**

Honorary Professors	3
Honorary Assoc. Professors	1
Honorary Research Associates	10

<b>Total</b>	<b>14</b>
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### Students

Postdoctoral	4
Doctoral	26
Master's	22
Honours	14
Undergraduate	414
<b>Total</b>	<b>480</b>

### Research Fields and Staff

#### Permanent staff

Professor Jeremy Midgley  
Head of Department; plant ecology; evolutionary biology; forest ecosystem dynamics.

Professor John J. Bolton  
Phycology; marine and freshwater biology; mariculture.

Professor William J. Bond  
Plant ecology; evolutionary biology; conservation biology; fire and community dynamics.

Dr Samson B. Chiphango  
Physiology; nitrogen fixation.

Associate Professor Michael D. Cramer  
Physiology; ecophysiology; plant nutrition.

Dr Edmund February  
Senior Lecturer: palaeoecology; ecophysiology.

Dr Lindsey Gillson  
Deputy Director of the Plant Conservation Unit: conservation ecology; palaeoecology; theoretical ecology; landscape history.

Professor Terry Hedderson  
Plant systematics; bryology; molecular systematics; life history traits.

Professor M. Timm Hoffman  
Director of the Plant Conservation Unit: plant ecology; conservation biology; community ecology; biodiversity.

Dr A. Muthama Muasya  
Senior Lecturer: plant systematics; molecular systematics; biogeography.

Dr Anthony G. Verboom  
Senior Lecturer: Plant systematics, ecophysiology, biogeography.

#### Honorary Professors

Professor Richard Cowling

Plant ecology; conservation biology; community ecology; biodiversity.

Professor John S. Donaldson  
Biodiversity.

Professor Peter Linder  
Systematics; taxonomy; evolutionary biology.

### **Honorary Associate Professors**

Associate Professor Robert J. Anderson  
Phycology.

### **Honorary Research Associates**

Dr N. Allsopp  
Ecophysiology

Dr N. Bergh  
Systematics

Dr P. Carrick  
Restoration ecology

Dr B Harding  
Phycology

Dr S. Higgins  
Ecosystems Ecology.

Dr A.G. Rebelo  
Ecology.

Dr R. Rohde  
Environmental Historian.

Dr G. Scott  
Systematics.

Dr A. Seydack  
Forest Ecology.

Professor C. Stirton  
Plant Systematics.

### **Contact Details**

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## Research output

### Chapters in books

Gillson, L., Laddie, R.J. and Aratijo, M.B. 2011. Baselines, patterns and process. In Laddie and Whittaker (eds), Conservation Biogeography, pp. 31-44. UK: Blackwell Publishing LTD. ISBN 978-1-4443-3504-0.

Gillson, L., Laddie, R.J. and Jepson, P. 2011. Social values and conservation biogeography. In Laddie and Whittaker(eds), Conservation Biogeography, pp. 13-30. UK: Blackwell Publishing LTD. ISBN 978-1-4443-3504-0.

Richardson, F.D. and Hoffman, M.T. 2011. Using models to predict the probability of degradation of rangelands when subjected to different management strategies. In L. Zietsman (ed.), Observations on Environmental Change in South Africa, pp. 109-123. Stellenbosch: SUN MeDIA Stellenbosch. ISBN 9781920338244.

### Articles in Peer-reviewed Journals

Ah-Peng, C. and Bardat, J. 2011. *Microlejeunea strasbergii* sp. nov. (Lejeuneaceae) from Reunion Island (Mascarenes). *Bryologist*, 114: 668-673.

Anderson, P. and Hoffman, M.T. 2011. Grazing response in the vegetation communities of the Kamiesberg, South Africa: Adopting a plant functional type approach. *Journal of Arid Environments*, 75: 255-264.

Antunes, E., Afolayan, A.F., Chiwakata, M.T., Fakee, J., Knott, M., Whibley, C.E., Hendricks, D.T., Bolton, J.J. and Beukes, D. 2011. Identification and *in vitro* anti-esophageal cancer activity of a series of halogenated monoterpenes isolated from the South African seaweeds *Plocamium suhrii* and *Plocamium cornutum*. *Phytochemistry*, 72: 769-772.

Bergh, N. and Verboom, G.A. 2011. Anomalous capitulum structure and monoecy may confer flexibility in sex allocation and life history evolution in the *Ifloga* lineage of paper daisies (Compositae: Gnaphalieae). *American Journal of Botany*, 98(7): 1113-1127.

Bergh, N., Trisos, C. and Verboom, G.A. 2011. Phylogeny of the "*Ifloga* clade" (Asteraceae, Gnaphalieae), a lineage occurring disjointly in the Northern and Southern Hemisphere, and inclusion of *Trichogyne* in synonymy with *Ifloga*. *Taxon*, 60(4): 1065-1075.

Bolton, J.J., Andreakis, N. and Anderson, R.J. 2011. Molecular evidence for three separate cryptic introductions of the red seaweed *Asparagopsis* (Bonnemaisoniales, Rhodophyta) in South Africa. *African Journal of Marine Science*, 33(2): 263-271.

Bowman, D.M.J.S., Balch, J., Artaxo, P., Bond, W.J., Cochrane, M.A., D'Antonio, C.M., DeFries, R.S., Johnston, F.H., Keeley, J., Krawchuk, M.A., Kull, C.A., Mack, M., Moritz, M.A., Pyne, S.J., Roos, C.I., Scott, A., Sodhi, N.S. and Swetnam, T.W. 2011. The human dimension of fire regimes on Earth. *Journal of Biogeography*, 38: 2223-2236.

Bruyns, P.V., Klak, C. and Hanacek, P. 2011. Age and diversity in Old World succulent species of Euphorbia (Euphorbiaceae). *Taxon*, 60: 1717-1733.

Cabral, J., Bond, W.J., Midgley, G.F., Rebelo, A.G., Thuiller, W. and Schurr, F. 2011. Effects of harvesting flowers from shrubs on the persistence and abundance of wild shrub populations at multiple spatial extents. *Conservation Biology*, 25: 73-84.

Carvalho, L.G., Veldtman, R., Shenkute, A.G., Tesfay, G.B., Pirk, C.W., Donaldson, J. and Nicolson, S. 2011. Natural and within-farmland biodiversity enhances crop productivity. *Ecology Letters*, 14: 251-259.

Clasen-Bockhoff, R., Oliver, E.G.H., Hall, A. and Quint, M. 2011. A new classification of the South African endemic family Bruniaceae based on molecular and morphological data. *Taxon*, 60(4): 1138-1155.

Coetsee, C., Stock, W.D. and Craine, J.M. 2011. Do grazers alter nitrogen dynamics on grazing lawns in a South African savannah? *African Journal of Ecology*, 49: 62-69.

Ellis, L.T., Akhoondi Darzikolaei, S., Shirzadian, S., Bakalin, V.A., Bednarek-Ochyra, H., Ochyra, R., Claro, D., Dulin, M.V., Eckel, P.M., Erzberger, P., Eziz, R., Sulayman, M., Garcia, C., Sergio, C., Stow, S., Hedderson, T.A., Hedenas, L., Kurschner, H., Li, W., Nebel, M., Nieuwkoop, J., Phillipov, D.A., Plasek, V., Sawicki, J., Schafer-Verwimp, A., Stefanut, S. and Vana, J. 2011. New national and regional bryophyte records, 29. *Journal of Bryology*, 33: 316-323.

Emadzade, K., Gehrke, B., Linder, P. and Horandl, E. 2011. The biogeographical history of the cosmopolitan genus *Ranunculus* L (Ranunculaceae) in the temperate to meridional zones. *Molecular Phylogenetics and Evolution*, 58: 4-21.

Estes, J.A., Terborgh, J., Brashares, J.S., Power, M.E., Berger, J., Bond, W.J., Carpenter, S.R., Essington, T.E., Holt, R.D., Jackson, J.B.C., Marquis, R.J., Oksanen, L., Oksanen, T., Paine, R.T., Pickett, E.K., Ripple, W.J., Sandin, S.A., Scheffer, M., Schoener, T.W., Shurin, J.B., Sinclair, A.R.E., Soule, M.E., Virtanen, R. and Wardle, D.A. 2011. Trophic Downgrading of Planet Earth. *Science*, 333: 301-306.

February, E.C., Allsopp, N., Shabane, T. and Hattas, D. 2011. Coexistence of a C<sub>4</sub> grass and a leaf succulent shrub in an arid ecosystem. The relationship between rooting depth, water and nitrogen. *Plant and Soil*, 349: 253-260.

Gehrke, B. 2011. Synopsis of *Carex* (Cyperaceae) from sub-Saharan Africa and Madagascar. *Botanical Journal of the Linnean Society*, 166: 51-99.

Godard-Coding, C.A.J., Clark, R., Fossi, M.C., Marsili, L., Maltese, S., West, A.G., Valenzuela, L., Rowntree, V., Polyak, L., Cannon, J.C., Pinkerton, K., Rubio-Cisneros, N., Mesnick, S.L., Cox, S.B., Kerr, L., Payne, R. and Stegeman, J. 2011. Pacific ocean-wide profile of CYP1A1 expression, stable carbon and nitrogen isotope ratios, and organic contaminant burden in sperm whale skin biopsies. *Environmental Health Perspectives*, 119: 119-343.

Hattas, D., Hjalten, J., Julkunen-Titto, R., Scogings, P.F. and Rooke, T. 2011. Differential phenolic profiles in six African savanna woody species in relation to antiherbivore defense. *Phytochemistry*, 72: 1796-1803.

Hawkins, H.-J., Malgas, R. and Bienabe, E. 2011. Ecotypes of wild rooibos (*Aspalathus linearis* (Burm. F) Dahlg., Fabaceae) are ecologically distinct. *South African Journal of Botany*, 77: 360-370.

Helm, C., Wilson, G., Midgley, J.J., Kruger, L. and Witkowski, E. 2011. Investigating the vulnerability of an African savanna tree *Sclerocarya birrea* ssp. *caffra* to fire and herbivory. *Austral Ecology*, 36: 964-973.

Higgins, S.I., Delgado-Cartay, M.D., February, E.C. and Combrink, H.J. 2011. Is there a temporal niche separation in the leaf phenology of savanna trees and grasses? *Journal of Biogeography*, 38: 2165-2175.

Hoffman, M.T., Cramer, M.D., Gillson, L. and Wallace, M. 2011. Pan evaporation and wind run decline in the Cape Floristic Region of South Africa (1974-2005): implications for vegetation responses to climate change. *Climatic Change*, 109: 437-452.

Hoffman, M.T. and Rohde, R. 2011. Rivers through time: historical changes in the riparian vegetation of the semi-arid, winter rainfall region of South Africa in response to climate and land use. *Journal of the History of Biology*, 44: 59-80.

Johnstone-Robertson, S., Mark, D., Morrow, C., Middelkoop, K., Chiswell, M., Aquino, L., Bekker, L. and Wood, R. 2011. Social mixing patterns within a South African township community: implications for respiratory disease transmission and control. *American Journal of Epidemiology*, 174(11): 1246-1255.

Jonathan Davies, T., Smith, G.F., Bellstedt, D.U., Boatwright, J.S., Bytebier, B., Cowling, M., Forest, F., Harmon, L.J., Muasya, A.M., Schrire, B., Steenkamp, Y., van der Bank, M. and Savolainen, V. 2011. Extinction risk and diversification are linked in a plant biodiversity hotspot. *Plos Biology*, 9(5): 1-9.

Kambatuku, J.R., Cramer, M.D. and Ward, D. 2011. Intraspecific competition between shrubs in a semi-arid savanna. *Plant Ecology*, 212: 701-713.

Kambatuku, J.R., Cramer, M.D. and Ward, D. 2011. Savanna tree-grass competition is modified by substrate type and herbivory. *Journal of Vegetation Science*, 22: 225-237.

Kattge, J., Diaz, S., Lavorel, S., Prentice, I.C., Leadley, P., Bonisch, G., Garnier, E., Westoby, M., Reich, P., Patino, S., Paula, S., Pausas, J.G., Penuelas, J., Phillips, O.L., Pillar, V., Poorter, H., Poorter, L., Poschlod, P., Prinzing, A., Wright, I., Proulx, R., Rammig, A., Reinsch, S., Reu, B., Sack, L., Salgado-Negret, B., Bond, W.J., Sardans, J., Shiodera, S., Shipley, B., Siefert, A., Cornelissen, J.H.C., Sponski, E., Soussana, J.F., Swaine, E., Swenson, N., Thompson, K., Thornton, P., Waldram, M., Weiher, E., White, M., Wright, S.J., Violle, C., Yguel, B., Zaehle, S., Zanne, A.E., Wirth, C., Harrison, S.P., van Bodegom, P.M., Reichstein, M., Enquist, B., Soudzilovskaia, N.A., Ackerly, D.D., Anand, M., Atkin, O., Bahn, M., Baker, T.R., Baldocchi, D., Bekker, R., Blanco, C.C., Blonder, B., Bradstock, R.A., Bunker, E., Casanoves, F., Cavender-Bares, J., Chambers, J.Q., Chapin III, F.S., Chave, J., Coomes, D., Cornwell, W.K., Craine, J.M., Dobrin, B.H., Duarte, L., Durka, W., Elser, J., Esser, G., Estiarte, M., Fagan, W.F., Fang, J., Fernandez-Mendez, F., Fidelis, A., Finegan, B., Flores, O., Ford, H., Frank, D., Freschet, G.T., Fyllas, N.M., Gallagher, R.V., Green, W.A., Gutierrez, A.G., Hickler, T., Higgins, S.I., Hodgson, J.G., Jalili, A., Jansen, S., Joly, C.A., Kerkhoff, A.J., Kirkup, D., Kitajima, K., Kleyer, M., Klotz, S., Knops, J.M.H., Kramer, K., Kuhn, I., Kurokawa, H., Laughlin, D., Lee, T., Leishman, M., Lens, F., Lewis, S.L., Lloyd, J., Llusia, J., Louault, F., Ma, S., Mahecha, M.D., Manning, P., Massad, T., Medlyn, B.E., Messier, J., Moles, A.T., Muller, S.C., Nadrowski, K., Naeem, S., Niinemets, U., Nollert, S., Nuske, A., Ogaya, R., Oleksyn, J., Onipchenko, V.G., Onoda, Y., Ordonez, J., Overbeck, G. and Ozinga, W.A. 2011. TRY - a global database of plant traits. *Global Change Biology*, 17: 2095-2935.

Keeley, J., Pausas, J.G., Rundel, P.W., Bond, W.J. and Bradstock, R.A. 2011. Fire as an evolutionary pressure shaping plant traits. *Trends in Plant Science*, 16(8): 1360-1385.

Klak, C. 2011. Aizoaceae: New combinations in Antimima and Octopoma (Ruschioideae). *Bothalia*, 41(2): 292-294.

Larridon, I., Reynders, M., Huygh, W., Bauters, K., Van de Putte, K., Muasya, M., Boeckx, P., Simpson, D., Vrijdaghs, A. and Goetghebeur, P. 2011. Affinities in C<sub>3</sub> *Cyperus* lineages (Cyperaceae) revealed using molecular phylogenetic data and carbon isotope analysis. *Botanical Journal of the Linnean Society*, 167: 19-46.

Larridon, I., Huygh, W., Reynders, M., Muasya, A.M., Govaerts, R., Simpson, D. and Goetghebeur, P. 2011. Nomenclature and typification of names of genera and subdivisions of genera in Cypereae (Cyperaceae) 2. Names of subdivisions of *Cyperus*. *Taxon*, 60: 868-884.

Larridon, I., Reynders, M., Huygh, W., Bauters, K., Vrijdaghs, A., Leroux, O., Muasya, A.M., Simpson, D. and Goetghebeur, P. 2011. Taxonomic changes in C<sub>3</sub> *Cyperus* (Cyperaceae) supported by molecular data, morphology, embryography, ontogeny and anatomy. *Plant Ecology and Evolution*, 144(3): 327-356.

Lawes, M.J., Murphy, B.P., Midgley, J.J. and Russell-Smith, J. 2011. Are the eucalypt and non-eucalypt components of Australian tropical savannas independent? *Oecologia*, 166: 229-239.

Lawes, M.J., Richards, A., Dathe, J. and Midgley, J.J. 2011. Bark thickness determines fire resistance of selected tree species from fire-prone tropical savanna in north Australia. *Plant Ecology*, 212: 2057-2069.

Lehmann, C.E.R., Archibald, S., Hoffmann, W.A. and Bond, W.J. 2011. Deciphering the distribution of the savanna biome. *New Phytologist*, 191: 197-209.

Mandiwana-Neudani, T., Kopuchian, C., Louw, G.J. and Crowe, T. 2011. A study of gross morphological and histological syringeal features of true francolins (Galliformes: Francolinus, Scleroptila, Peliperdix and Dendroperdix spp.) and spurfowls (Ptemistis spp.) in a phylogenetic context. *Ostrich*, 82(2): 115-127.

Manyanga, P., Soderstrom, L. and Hedderson, T.A. 2011. Co-variation of life history characters in the family Lophoziaceae: a multivariate analysis. *Bryologist*, 114: 583-594.

Middelkoop, K., Bekker, L., Myer, L., Johnson, L.F., Kloos, M., Morrow, C. and Wood, R. 2011. Antiretroviral therapy and tb nitification rates in a high HIV prevalence South African community. *J aids-Journal of Acquired Immune Deficiency Syndromes*, 56(3): 263-269.

Midgley, J.J., Kruger, L.M. and Skelton, R. 2011. How do fires kill plants? The hydraulic death hypothesis and Cape Proteaceae "fire-resisters". *South African Journal of Botany*, 77: 381-386.

Moncrieff, G., Chamaille-Jammes, S., Higgins, S.I., O'Hara, R.B. and Bond, W.J. 2011. Tree allometries reflect a lifetime of herbivory in an African savanna. *Ecology*, 92: 2310-2315.

Morris, T.L., Esler, K., Barger, N., Jacobs, S.M. and Cramer, M.D. 2011. Ecophysiological traits associated with the competitive ability of invasive Australian acacias. *Diversity and Distributions*, 17: 898-910.

Muasya, A.M., Viljoen, J.-A. and Stirton, C.H. 2011. *Isolepis namaquana* (Cypereae, Cyperaceae), a new endemic species from the winter rainfall area of South Africa. *South African Journal of Botany*, 77: 55-58.

Muasya, A.M., Larridon, I., Reynders, M., Huygh, W., Goetghebeur, P., Cable, S., Simpson, D. and Gehrke, B. 2011. The Cyperaceae in Madagascar show increased species richness in upland forest and wetland habitats. *Plant Ecology and Evolution*, 144(3): 357-362.

Pauw, A. and Bond, W.J. 2011. Mutualisms matter: pollination rate limits the distribution of oil-secreting orchids. *Oikos*, 120: 1531-1538.

Potts, A., Midgley, J.J., Child, M.F., Larsen, C. and Hempson, T. 2011. Coexistence theory in the Cape Floristic Region: revisiting an example of leaf niches in the Proteaceae. *Austral Ecology*, 36: 212-219.

Power, S., Cramer, M.D., Verboom, G.A. and Chimphango, S.B. 2011. Legume seeders of the Cape Floristic Region inhabit more fertile soils than congeneric resprouters - sometimes. *Plant Ecology*, 212: 1979-1989.

Puttick, J., Hoffman, M.T. and Gambiza, J. 2011. Historical and recent land-use impacts on the vegetation of Bathurst, a municipal commonage in the Eastern Cape, South Africa. *African Journal of Range and Forage Science*, 28(1): 920.

Ratnam, J., Bond, W.J., Fensham, R.J., Hoffmann, W.A., Archibald, S., Lehmann, C.E.R., Anderson, M.T., Higgins, S.I. and Sankaran, M. 2011. When is a 'forest' a savanna, and why does it matter? *Global Ecology and Biogeography*, 20: 653-660.

Reynders, M., Huygh, W., Larridon, I., Muasya, A.M., Govaerts, R., Simpson, D.A. and Goetghebeur, P. 2011. Nomenclature and typification of names of genera and subdivisions of genera in the *Cypereae* (*Cyperaceae*): 3. Names in segregate genera of *Cyperus*. *Taxon*, 60: 885-895.

Schachtschneider, K. and February, E.C. 2010. The relationship between fog, floods, groundwater and tree growth along the lower Kuiseb River in the hyperarid Namib. *Journal of Arid Environments*, 74: 1632-1637.

Schutz, A., Bond, W.J. and Cramer, M.D. 2011. Defoliation depletes the carbohydrate reserves of resprouting *Acacia* saplings in an African savanna. *Plant Ecology*, 212: 2047-2055.

Shiponeni, N., Allsopp, N., Carrick, P.J. and Hoffman, M.T. 2011. Competitive interactions between grass and succulent shrubs at the ecotone between an arid grassland and succulent shrubland in the Karoo. *Plant Ecology*, 212: 795-808.

Sievers, C. and Muasya, A.M. 2011. Identification of the sedge *Cladium mariscus* subsp. *jamaicense* and its possible use in the Middle Stone Age at Sibudu, KwaZulu-Natal. *Southern African Humanities*, 23: 77-86.

Sirami, C., Brotons, L. and Martin, J. 2011. Woodlarks *Lullula arborea* and landscape heterogeneity created by land abandonment. *Bird Study*, 58: 99-106.

Stirton, C.H. and Muasya, A.M. 2011. *Aspalathus abbottii* (Fabaceae: Crotalarieae), a new species from KwaZulu-Natal, South Africa. *South African Journal of Botany*, 77: 675-679.

Turner, R.C., Midgley, J.J. and Johnson, S.D. 2011. Evidence for rodent pollination in *Erica hanekomii* (Ericaceae). *Botanical Journal of the Linnean Society*, 166: 163-170.



Turner, R.C., Midgley, J.J., Barnard, P., Simmons, R.E. and Johnson, S.D. 2011. Experimental evidence for bird pollination and corolla damage by ants in the short-tubed flowers of *Erica halicacaba* (Ericaceae). *South African Journal of Botany*, 79: 25-31.

Van Cauter, A., Waldram, M., Moles, A.T., Wallis, I.R., Foley, W.J., Warton, D.I., Stegen, J.C., Bisigato, A.J., Cella-Pizarro, L., Clark, C.J., Cohen, P.S., Cornwell, W.K., Edwards, W., Ejrnaes, R., Gonzales-Ojeda, T., Graae, B.J., Hay, G., Lumbwe, F.C., Magana-Rodriguez, B., Moore, B.D., Peri, P.L., Poulsen, J.R., Veldtman, R., von Zeipel, H., Andrew, N.R., Boulter, S.L., Borer, E.T., Campon, F.F., Coll, M., Farji-Brener, A.G., De Gabriel, J., Jurado, E., Kyhn, L.A., Low, B., Mulder, C.P.H., Reardon-Smith, K., Rodriguez-Velazquez, J., Seabloom, E.W., Vesk, P.A., Zheng, Z., Blendinger, P.G., Enquist, B., Facelli, J., Knight, T., Majer, J.D., Martinez-Ramos, M., McQuillan, P. and Prior, L.D. 2011. Putting plant resistance traits on the map: a test of the idea that plants are better defended at lower latitudes. *New Phytologist*, 191: 777-788.

Verweij, R., Higgins, S.I., Bond, W.J. and February, E.C. 2011. Water sourcing by trees in a mesic savanna: responses to severing deep and shallow roots. *Environmental and Experimental Botany*, 74: 229-236.

Vrijdaghs, A., Reynders, M., Muasya, A.M., Larridon, I., Goetghebeur, P. and Smets, E. 2011. Morphology and development of spikelets and flowers in *Cyperus* and *Pycreus* (Cyperaceae). *Plant Ecology and Evolution*, 436: 2-21.

Wakeling, J., Staver, C.A. and Bond, W.J. 2011. Simply the best: the transition of savanna saplings to trees. *Oikos*, 120: 1448-1451.

Warren, B.H., Bakker, F.T., Bellstedt, D.U., Bytebier, B., Clasen-Bockhoff, R., Dreyer, L.L., Edwards, D., Forest, F., Galley, C., Hardy, C.R., Linder, P., Muasya, M., Mummenhoff, K., Oberlander, K.C., Quint, M., Richardson, J., Savolainen, V., Schrire, B., van der Niet, T., Verboom, G.A., Yesson, C. and Hawkins, J.A. 2011. Consistent phenological shifts in the making of a biodiversity hotspot: the Cape flora. *BMC Evolutionary Biology*, 11:39: 1-11. <http://www.biomedcentral.com/1471-2148/11/39>.

West, A., Goldsmith, G.R., Matimati, I. and Dawson, T.E. 2011. Spectral analysis software improves confidence in plant and soil water stable isotope analyses performed by isotope ratio infrared spectroscopy (IRIS). *Rapid Communications in Mass Spectrometry*, 25: 2268-2274.

Whitehead, O.T., Biccard, A. and Griffiths, C.L. 2011. South African pelagic goose barnacles (Cirripedia, Thoracica): substratum preferences and influence of plastic debris on abundance and distribution. *Crustaceana*, 84: 635-649.

Wilding, N. and Hedderson, T.A. 2011. *Entosthodon jamesonii* and *E. lindigii*: two species new for Africa from the Indian Ocean Islands. *Journal of Bryology*, 33: 326-327.

Zaloumis, N. and Bond, W.J. 2011. Grassland restoration after afforestation: no direction home? *Austral Ecology*, 36: 357-366.

Zander, R. and Hedderson, T.A. 2011. *Picobryum*, a new genus of Pottiaceae (Bryophyta) from South Africa, and an erratum for *Acaulonopsis*. *Journal of Bryology*, 33: 130-133.

Zander, R. and Hedderson, T.A. 2011. A new species of *Crossidium* (Pottiaceae, Bryophyta) from South Africa. *Journal of Bryology*, 33: 304-307.