

Research Report**Plant- en Dierkunde : 2015**

PLEASE NOTE: The Research Report format modifications have now been completed. If you detect any problems with the format on the report, please contact the RA Administrators in the Research Office.

Journal Articles (subsidised)

POTTS AJ, MONCRIEFF GR, BOND WJ, COWLING RM. An operational framework for biome boundary research with examples from South Africa. *South African Journal of Botany* 2015; **101**:5-15.

SCHÜCKEL U, KRÖNCKE I, BAIRD D. Linking long-term changes in trophic structure and function of an intertidal macrobenthic system to eutrophication and climate change using ecological network analysis. *Marine Ecology Progress Series* 2015; **536**:25-38.

VILÀ M, ROHR RP, ESPINAR JL, HULME PE, PERGL J, LE ROUX JJ, SCHAFFNER U, PYSEK P. Explaining the variation in impacts of non-native plants on local-scale species richness: The role of phylogenetic relatedness. *Global Ecology and Biogeography* 2015; **24**:139-146.

ALBERTUS RMC, REINECKE AJ. Biodegradering van sintetiese gas-tot-vloeistof-diesel, biodiesel en hul mengsels. *South African Journal for Science and Technology / Suid-Afrikaanse Tydskrif vir Natuurwetenskap en Tegnologie* 2015; **34**(1):Art.#1302, 6 pages.

ALEXANDER ME, ADAMS R, DICK JT, ROBINSON T. Forecasting invasions: resource use by mussels informs invasion patterns along the South African coast. *Marine Biology* 2015; **162**:2493-2500.

ALEXANDER ME, DICK JT, OCONNOR NE. Predation in the marine intertidal amphipod *Echinogammarus marinus* Leach: Implications of inter- and intra-individual variation. *Journal of Experimental Marine Biology and Ecology* 2015; **462**:50-54.

ALEXANDER ME, KAISER H, WEYL OLF, DICK JT. Habitat simplification increases the impact of a freshwater invasive fish. *Environmental Biology of Fishes* 2015; **98**:477-486.

ALEXANDER ME, RAVEN HJ, ROBINSON T. Foraging decisions of a native whelk, *Trochia cingulata* Linnaeus, and the effects of invasive mussels on prey choice. *Journal of Experimental Marine Biology and Ecology* 2015; **470**:26-33.

ALLARDICE RP, KAPP C, BOTHA A, VALENTINE AJ. Optimizing Vermicompost Concentrations for the N Nutrition and Production of the Legume *Lupinus angustifolius*. *Compost Science & Utilization* 2015; **23**(4):217-236.

ALTWEGG R, DE KLERK HM, MIDGLEY GF. Fire-mediated disruptive selection can explain the reseeder-resprouter dichotomy in Mediterranean-type vegetation. *Oecologia* 2015; **177**(2):367-377.

ANDERSON WR, CRUZ MG, FERNANDES PM, MCCAW L, VEGA JA, BRADSTOCK RA, FOGARTY L, GOULD J, MCCARTHY G, MARSDEN-SMEDLEY JB, MATTHEWS S, MATTINGLEY G, PEARCE HG, VAN WILGEN BW. A generic, empirical-based model for predicting rate of fire spread in shrublands. *International Journal of Wildland Fire* 2015; **24**(4):443-460.

AYLWARD J, DREYER LL, STEENKAMP ET, WINGFIELD MJ, ROETS F. Long-distance dispersal and recolonization of a fire-destroyed niche by a mite-associated fungus. *Fungal Biology* 2015; **119**:245-256.

BAECKENS S, EDWARDS S, HUYGHE K, VAN DAMME R. Chemical signalling in lizards: an interspecific comparison of femoral pore numbers in Lacertidae. *Biological Journal of the Linnean Society* 2015; **114**:44-57.

BASSON CH, CLUSELLA-TRULLAS S. The behavior-physiology nexus: Behavioral and physiological compensation are relied on to different extents between seasons. *Physiological and Biochemical Zoology* 2015; **88**(4):384-394.

BELTRÀ A, ADDISON P, ÁVALOS JA, CROCHARD D, GARCIA-MARÍ F, GUERRIERI E, GILIOMEE JH, MALAUSA T, NAVARRO-CAMPOS1 C, PALERO F, SOTO A. Guiding classical biological control of an invasive mealybug using integrative taxonom. *PLoS ONE* 2015; **10**(6):e0128684, 14 pages.

- BLANCHARD R, O'FARRELL PJ, RICHARDSON DM. Anticipating potential biodiversity conflicts for future biofuel crops in South Africa: incorporating spatial filters with species distribution models. *Global Change Biology Bioenergy* 2015; **7**:273-287.
- BONATO M, CHERRY MI, CLOETE SWPVDM. Mate choice, maternal investment and implications for ostrich welfare in a farming environment. *Applied Animal Behaviour Science* 2015; **171**:1-7.
- BROECKHOVEN C, DIEDERICKS G, MOUTON PLN. What doesn't kill you might make you stronger: functional basis for variation in body armour. *Journal of Animal Ecology* 2015; **84**:1213-1221.
- BROECKHOVEN C, MOUTON PLN. Hit or miss: Functional mechanisms underlying prey capture efficiency in three cordylid lizards. *Journal of Arid Environments* 2015; **120**:72-74.
- BROECKHOVEN C, MOUTON PLN. Some like it hot: Camera traps unravel the effects of weather conditions and predator presence on the activity levels of two lizards. *PLoS ONE* 2015; **10**(9):e0137428, 15 pages.
- CERNOHORSKA H, KUBICKOVA S, KOPECNA O, VOZDOVA M, MATTHEE CA, ROBINSON TJ, RUBES J. *Nanger, Eudorcas, Gazella*, and *Antilope* form a well-supported chromosomal clade within Antilopini (Bovidae, Cetartiodactyla). *Chromosoma* 2015; **124**:235-247.
- CHARLES-DOMINIQUE T, BECKETT H, MIDGLEY GF, BOND WJ. Bud protection: A key trait for species sorting in a forest-savanna mosaic. *New Phytologist* 2015; **207**:1052-1060.
- CHARLES-DOMINIQUE T, MIDGLEY GF, BOND WJ. An index for assessing effectiveness of plant structural defences against mammal browsing. *Plant Ecology* 2015; **216**:1433-1440.
- CHARLES-DOMINIQUE T, STAVER AC, MIDGLEY GF, BOND WJ. Functional differentiation of biomes in an African savanna/forest mosaic. *SOUTH AFRICAN JOURNAL OF BOTANY* 2015; **101**:82-90.
- CHERRY MI. The cradle of humankind revisited. *Human evolution* 2015; **523**(7558):33-33.
- COLLING J, TOHGE T, DE CLERCQ R, BRUNOUD G, VERNOUX T, FERNIE AR, MAKUNGA NP, GOOSSENS A, PAUWELS L. Overexpression of the *Arabidopsis thaliana* signalling peptide TAXIMIN1 affects lateral organ development. *Journal of Experimental Botany* 2015; **66**(17):5337-5349.
- CONLON JM, MECHKARSKA M, COQUET L, LEPRINCE J, JOUENNE T, VAUDRY H, MEASEY GJ. Evidence from peptidomic analysis of skin secretions that allopatric populations of *Xenopus gilli* (Anura:Pipidae) constitute distinct lineages. *Peptides* 2015; **63**:118-125.
- CRESSEY ER, MEASEY GJ, TOLLEY KA. Fading out of view: The enigmatic decline of Rose's mountain toad *Capensibufo rosei*. *Oryx* 2015; **49**(3):521-528.
- DANIELS CW, RAUTENBACH F, MARNEWICK J, VALENTINE AJ, BABAJIDE JO, MABUSELA WT. Environmental stress effect on the phytochemistry and antioxidant activity of a South African bulbous geophyte, *Gethyllis multifolia* L. Bolus. *South African Journal of Botany* 2015; **96**:29-36.
- DANIELS SR, PHIRI EE, KLAUS S, ALBRECHT C, CUMBERLIDGE N. Multilocus Phylogeny of the Afrotropical Freshwater Crab Fauna Reveals Historical Drainage Connectivity and Transoceanic Dispersal Since the Eocene. *Systematic Biology* 2015; **64**:549-567.
- DAVID A, SIMON CA. The effect of temperature on larval development of two non-indigenous poecilogenous polychaetes (Annelida: Spionidae) with implications for life history theory, establishment and range expansion. *Journal of Experimental Marine Biology and Ecology* 2015; **461**:20-30.
- DAVIES S, MC GEOCH MA, CLUSELLA-TRULLAS S. Plasticity of thermal tolerance and metabolism but not water loss in an invasive reed frog. *Comparative biochemistry and physiology. Part A, Molecular & integrative physiology* 2015; **189**:11-20.
- DE VILLIERS AJ, MOUTON PLN, FLEMMING AF. Generation glands of cordylid lizards: mechanism of secretion transfer to the environment. *Amphibia-Reptilia* 2015; **36**:351-360.
- DE WAAL C, ANDERSON BC, ELLIS AG. Relative density and dispersion pattern of two southern African Asteraceae affect fecundity through heterospecific interference and mate availability, not pollinator visitation rate. *Journal of Ecology* 2015; **103**:513-525.
- DOLLION AY, CORNETTE R, TOLLEY KA, BOISTEL R, EURIAS A, BOLLER E, FERNANDEZ V, STYNDER D, HERREL A. Morphometric analysis of chameleon fossil fragments from the Early

Pliocene of South Africa: a new piece of the chamaeleonid history. *Science of Nature* 2015; **102**:1-14.

DRISCOLL DA, CATFORD JA, BARNEY JN, HULME PE, INDERJIT INDERJIT, MARTIN TG, PAUCHARD A, PYSEK P, RICHARDSON DM, RILEY S, VISSER V. Reply to Proen a et al.: Sown biodiverse pastures are not a universal solution to invasion risk. *Proceedings of the National Academy of Sciences of the United States of America* 2015; **112**(14):E1696.

ESLER KJ, VON STADEN L, MIDGLEY GF. Determinants of the Fynbos/Succulent Karoo biome boundary: Insights from a reciprocal transplant experiment. *SOUTH AFRICAN JOURNAL OF BOTANY* 2015; **101**:120-128.

ESSL F, BACHER S, BLACKBURN T, BOOY O, BRUNDU G, BRUNEL S, CARDOSO AC, ESCHEN R, GALLARDO B, GALIL B, GARC A-BERTHOU E, GENOVESI P, GROOM Q, HARROWER C, HULME PE, KATSANEVAKIS S, KENIS M, K HN I, KUMSCHICK S, MARTINOU AF, NENTWIG W, OFLYNN C, PA. Crossing Frontiers in Tackling Pathways of Biological Invasions. *Bioscience* 2015; **65**: 769-782.

ESSL F, DULLINGER S, RABITSCH W, HULME PE, PY EK P, WILSON JR, RICHARDSON DM. Delayed biodiversity change: no time to waste. *Trends in Ecology & Evolution* 2015; **30**(7):375-378.

ESSL F, DULLINGER S, RABITSCH W, HULME PE, PY EK P, WILSON JR, RICHARDSON DM. Historical legacies accumulate to shape future biodiversity in an era of rapid global change. *Diversity and Distributions* 2015; **21**:534-547.

FARR  M, ROBINSON TJ, RUIZ-HERRERA A. An Integrative Breakage Model of genome architecture, reshuffling and evolution: The Integrative Breakage Model of genome evolution, a novel multidisciplinary hypothesis for the study of genome plasticity. *Bioessays* 2015; **37**(5):479-488.

FAULKNER KT, SPEAR D, ROBERTSON MP, ROUGET M, WILSON JR. An assessment of the information content of South African alien species databases. *Bothalia* 2015; **45**(1): Art. #1103, 11 pages.

GILDENHUYSEN E, ELLIS AG, CARROLL SP, LE ROUX JJ. Combining natal range distributions and phylogeny to resolve biogeographic uncertainties in balloon vines (*Cardiospermum*, *Sapindaceae*). *Diversity and Distributions* 2015; **21**:163-174.

GILDENHUYSEN E, ELLIS AG, CARROLL SP, LE ROUX JJ. From the Neotropics to the Namib: evidence for rapid ecological divergence following extreme long-distance dispersal. *Botanical Journal of the Linnean Society* 2015; **179**:477-486.

GILIOMEE JH. Dopluise (Hemiptera: Coccoidea) geassosieer met die wipstertmier, *Crematogaster peringueyi* Emery (Hymenoptera: Formicidae). *South African Journal for Science and Technology / Suid-Afrikaanse Tydskrif vir Natuurwetenskap en Tegnologie* 2015; **34**(1):Art. #1286, 4 pages.

GONZ LES-MORENO P, DIEZ J, RICHARDSON DM, VILA M. Beyond climate: disturbance niche shifts in invasive species. *Global Ecology and Biogeography* 2015; **24**:360-370.

HAWKINS CL, BACHER S, ESSL F, HULME PE, JESCHKE JM, K HN I, KUMSCHICK S, NENTWIG W, PERGL J, PY EK P, RABITSCH W, RICHARDSON DM, VILA M, WILSON JR, GENOVESI P, BLACKBURN TM. Framework and guidelines for implementing the proposed IUCN Environmental Impact Classification for Alien Taxa (EICAT). *Diversity and Distributions* 2015; **21**:1360-1363.

HEJDA M, CHYTRY M, PERGL J, PYCEK M. Native-range habitats of invasive plants: Are they similar to invaded-range habitats and do they differ according to the geographical direction of invasion?. *Diversity and Distributions* 2015; **21**: 312-321.

HIGHAM TE, MEASEY GJ, BIRN-JEFFERY AV, HERREL A, TOLLEY KA. Functional divergence between morphs of a dwarf chameleon: Differential locomotor kinematics in relation to habitat structure. *Biological Journal of the Linnean Society* 2015; **116**:27-40.

HILL M, MALAN AP, TERBLANCHE JS. Divergent thermal specialisation of two South African entomopathogenic nematodes. *PeerJ* 2015; **3**:e1023, 16 pages.

HIRSCH H, WAGNER V, DANIELKA J, RUPRECHT E, S NCHEZ-G MEZ P, SEIFERT M, HENSEN I. High genetic diversity declines towards the geographic range periphery of *Adonis vernalis*, a Eurasian dry grassland plant. *Plant Biology* 2015; **17**:1233-1241.

HJARDING A, TOLLEY KA, BURGESS ND. Red List assessments of East African chameleons: a case study of why we need experts. *Oryx* 2015; **49**(4):652-658.

HOFFMANN V, VERBOOM GA, COTTERILL FPD. Dated Plant Phylogenies Resolve Neogene Climate and Landscape Evolution in the Cape Floristic Region. *PLoS ONE* 2015; **10**(9):e0137847, 25 pages.

HULME PE, PAUCHARD A, PYŠEK P, VILÀ M, ALBA C, BLACKBURN TM, BULLOCK JM, CHYTRÝ M, DAWSON W, DUNN A, ESSL F, GENOVESI P, MASKEL LC, MEYERSON LA, NUÑEZ MA, PERGL J, PESCOTT MJO, POCOCK MJO, RICHARDSON DM, ROY HE, SMART SM, STAJEROVÁ K, STOHLGREN T, VAN KLE. Challenging the view that invasive non-native plants are not a significant threat to the floristic diversity of Great Britain. *Proceedings of the National Academy of Sciences of the United States of America* 2015; **112**(23):E2988-E2989.

HUMAIR F, HUMAIR L, KÜHN F, KUFFER M. E-commerce trade in invasive plants. *Conservation Biology* 2015; **29**(6):1658-1665.

IACARELLA JC, DICK JT, ALEXANDER ME, RICCIARDI A. Ecological impacts of invasive alien species along temperature gradients: testing the role of environmental matching. *Ecological Applications* 2015; **25**(3):706-716.

JANION-SCHEEPERS C, DEHARVENG L, BEDOS A, CHOWN SL. Updated list of Collembola species currently recorded from South Africa. *ZooKeys* 2015; **503**: 55-88.

JUNKER K, MARIAUX J, MEASEY GJ, MUTAFCHIEV Y. *Meteterakis saotomensis* n. sp. (Nematoda: Heterakidae) from *Schistometopum thomense* (Bocage) (Gymnophiona: Dermophiidae) on São Tomé Island. *Systematic Parasitology* 2015; **92**:131-139.

KEIGHTLEY J, VON DER HEYDEN S, JACKSON S. Introduced Pacific oysters *Crassostrea gigas* in South Africa: demographic change, genetic diversity and body condition. *African Journal of Marine Science* 2015; **37**(1):89-98.

KELSTRUP HCP, HARTFELDER K, WOSSLER TC. *Polistes smithii* vs. *Polistes dominula*: the contrasting endocrinology and epicuticular signaling of sympatric paper wasps in the field. *BEHAVIORAL ECOLOGY AND SOCIOBIOLOGY* 2015; **69**(12):2043-2058.

KUMSCHICK S, BACHER S, EVANS T, MARKOVÁ Z, PERGL J, PYŠEK P, VAES-PETIGNAT S, VAN DER VEER G, VILÀ M, NENTWIG W. Comparing impacts of alien plants and animals in Europe using a standard scoring system. *Journal of Applied Ecology* 2015; **52**:552-561.

KUMSCHICK S, GAERTNER M, VILÀ M, ESSL F, JESCHKE JM, PYŠEK P, RICCIARDI A, BACHER S, BLACKBURN TM, DICK JT, EVANS T, HULME PE, KUHN I, MRUGULA A, PERGL J, RABITSCH W, RICHARDSON DM, SENDEK A, WINTER M. Ecological Impacts of Alien Species: Quantification, Scope, Caveats, and Recommendations. *Bioscience* 2015; **65**(1):55-63.

LAVERTY C, DICK JT, ALEXANDER ME, LUCY FE. Differential ecological impacts of invader and native predatory freshwater amphipods under environmental change are revealed by comparative functional responses. *Biological Invasions* 2015; **17**(6):1761-1770.

LE ROUX JJ, FOXCROFT LC, HERBST M, MACFADYEN S. Genetic analysis shows low levels of hybridization between African wildcats (*Felis silvestris lybica*) and domestic cats (*F. s. catus*) in South Africa. *Ecology and Evolution* 2015; **5**:288-299.

LEINAAS HP, BENGTSSON J, JANION-SCHEEPERS C, CHOWN SL. Indirect effects of habitat disturbance on invasion: Nutritious litter from a grazing resistant plant favors alien over native Collembola. *Ecology and Evolution* 2015; **5**(16): 3462-3471.

LETTY B, HENSEN I, HIRSCH H, RENISON D. No differences in genetic diversity of *Cotoneaster franchetii* (Rosaceae) shrubs between native and non-native ranges . *Boletin de la Sociedad Argentina de Botanica* 2015; **50**(3):377-384.

LEURS G, OCONNELL CPO, ANDREOTTI S, RUTZEN M, VONK NOORDEGRAAF H. Risks and advantages of using surface laser photogrammetry on free-ranging marine organisms: A case study on white sharks *Carcharodon carcharias*. *Journal of Fish Biology* 2015; **86**(6):1713-1728.

LOSOSOVÁ Z, DE BELLO F, CHYTRÝ M, KÜHN I, PYCEK M, SÁDLO J, WINTER M, ZELENÝ D. Alien plants invade more phylogenetically clustered community types and cause even stronger clustering. *Global Ecology and Biogeography* 2015; **24**:786-794.

MACHINGAMBI NM, DREYER LL, OBERLANDER KC, ROUX J, ROETS F. Death of endemic *Virgilia oroboides* trees in South Africa caused by *Diaporthe virgiliae* sp. nov. *Plant Pathology* 2015; **64**:1149-1156.

- MAGADLELA A, VARDIEN W, KLEINERT A, DREYER LL, VALENTINE AJ. The role of phosphorus deficiency in nodule microbial composition, and carbon and nitrogen nutrition of a native legume tree in the Cape fynbos ecosystem. *Australian Journal of Botany* 2015; **63**(5):379-386.
- MAISTRY PM, MUASYA AM, VALENTINE AJ, CHIMPHANGO SBM. Balanced allocation of organic acids and biomass for phosphorus and nitrogen demand in the fynbos legume *Podalyria calyptrata*. *Journal of Plant Physiology* 2015; **174**:16-25.
- MAISTRY PM, MUASYA AM, VALENTINE AJ, CHIMPHANGO SBM. Increasing nitrogen supply stimulates phosphorus acquisition mechanisms in the fynbos species *Aspalathus linearis*. *Functional Plant Biology* 2015; **42**(1):52-62.
- MAKHUBO BG, TOLLEY KA, BATES MF. Molecular phylogeny of the Afroedura nivaria (Reptilia: Gekkonidae) species complex in South Africa provides insight on cryptic speciation. *Molecular Phylogenetics and Evolution* 2015; **82**:31-42.
- MATTHEE CA, VAN DER MESCHT L, MATTHEE S. A genetic perspective on the taxonomy and evolution of the medically important flea, *Dinopsyllus ellobius* (Siphonaptera: Dinopsyllinae), and the resurrection of *Dinopsyllus abaris*. *Biological Journal of the Linnean Society* 2015; **116**:541-557.
- MATTHEWS T, VAN DIJK DE, ROBERTS DL, SMITH RMH. An early Pliocene (5.1 Ma) fossil frog community from Langebaanweg, south-western Cape, South Africa. *African Journal of Herpetology* 2015; **64**(1):39-53.
- MC CONNACHIE MM, VAN WILGEN BW, RICHARDSON DM, FERRARO PJ, FORSYTH AT. Estimating the effect of plantations on pine invasions in protected areas: a case study from South Africa. *Journal of Applied Ecology* 2015; **52**:110-118.
- MEASEY GJ, VIMERCATI G, DE VILLIERS FA, MOKHATLA MM, DAVIES S, EDWARDS S, ALTWEGG R. Frog eat frog: exploring variables influencing anurophagy. *PeerJ* 2015; **3**:e1204, 16 pages.
- MENEGON M, LOADER SP, DAVENPORT TRB, HOWELL KM, TILBURY CR, MACHAGA S, TOLLEY KA. A new species of Chameleon (Sauria: Chamaeleonidae: *Kinyongia*) highlights the biological affinities between the Southern Highlands and Eastern Arc Mountains of Tanzania. *Acta Herpetologica* 2015; **10**(2):111-120.
- MIDGLEY GF, BOND WJ. Future of African terrestrial biodiversity and ecosystems under anthropogenic climate change. *Nature Climate Change* 2015; **5**:823-829.
- MIRIMIN L, KITCHIN N, IMPSON DN, CLARK PF, RICHARD J, DANIELS SR, ROODT-WILDING R. Genetic and Morphological Characterization of Freshwater Shrimps (*Caridina Africana* Kingsley, 1882) Reveals the Presence of Alien Shrimps in the Cape Floristic Region, South Africa. *Journal of Heredity* 2015; **106**(6):711-718.
- MOKHATLA MM, RÖDDER D, MEASEY GJ. Assessing the effects of climate change on distributions of Cape Floristic Region amphibians. *South African Journal of Science* 2015; **111**:Art. #2014-0389, 7 pages.
- MONCRIEFF GR, SCHEITER S, SLINGSBY JA, HIGGINS SI. Understanding global change impacts on South African biomes using Dynamic Vegetation Models. *South African Journal of Botany* 2015; **101**:16-23.
- MOUTON M, BOTH A, THORNTON M, MESJASZ-PRZYBYLOWICZ J, MESJASZ-PRZYBYLOWICZ WJ. Elemental distribution patterns in the skins of false killer whales (*Pseudorca crassidens*) from a mass stranding in South Africa, analysed using micro-PIXE. *Nuclear Instruments & Methods in Physics Research Section B-Beam Interactions with Materials and Atoms* 2015; **363**:70-74.
- MOUTON M, PRZYBYLOWICZ W, MESJASZ-PRZYBYLOWICZ J, POSTMA F, THORNTON M, ARCHER E, BOTH A. Linking the occurrence of cutaneous opportunistic fungal invaders with elemental concentrations in false killer whale (*Pseudorca crassidens*) skin. *Environmental Microbiology Reports* 2015; **7**(5):728-737.
- MUGRABI DE KUPPLER AL, FAGÚNDEZ J, BELLSTEDT DU, OLIVER EGH, LÉON J, PIRIE MD. Testing reticulate versus coalescent origins of *Erica lusitanica* using a species phylogeny of the northern heathers (Ericaceae, Ericaceae). *Molecular Phylogenetics and Evolution* 2015; **88**:121-131.
- MUSVUUGWA T, DE BEER ZW, DUONG TA, DREYER LL, OBERLANDER KC, ROETS F. New species of Ophiostomatales from Scolytinae and Platypodinae beetles in the Cape Floristic Region, including

the discovery of the sexual state of *Raffaelea*. *Antonie Van Leeuwenhoek International Journal of General and Molecular Microbiology* 2015; **108**:933-950.

MUTEVERI T, MATTHEE CA, BOWIE RCK, VON DER HEYDEN S. High population connectivity and Pleistocene range expansion in the direct-developing plough shell *Bullia rhodostoma* along the South African coast . *African Journal of Marine Science* 2015; **37**(1):21-31.

MYBURGH AM, DANIELS SR. Exploring the impact of habitat size on phylogeographic patterning in the overberg velvet worm *peripatopsis overbergiensis* (onychophora: Peripatopsidae). *Journal of Heredity* 2015; **106**(3):296-305.

NEWMAN EL, MANNING J, ANDERSON BC. Local adaptation: Mechanical fit between floral ecotypes of *Nerine humilis* (Amaryllidaceae) and pollinator communities. *Evolution* 2015; **69** (9):2262 -2275.

NOVOA PEREZ A, KAPLAN H, KUMSCHICK S, WILSON JR, RICHARDSON DM. Soft Touch or Heavy Hand? Legislative Approaches for Preventing Invasions: Insights from Cacti in South Africa. *Invasive Plant Science and Management* 2015; **8**:307-316.

NOVOA PEREZ A, LE ROUX JJ, ROBERTSON MP, WILSON JR, RICHARDSON DM. Introduced and invasive cactus species: a global review. *Annals of Botany* 2015; **7**(1):plu078, 14 pages.

NUNES AN, TRICARICO E, PANOV VE, CARDOSO AC, KATSANEVAKIS S. Pathways and gateways of freshwater invasions in Europe. *Aquatic Invasions* 2015; **10**(4):359-370.

NXELE TC, LAMANI SF, MEASEY GJ, ARMSTRONG AJ, PLISKO JD, WILLOWS-MUNRO S, JANION-SCHEEPERS C, WILSON JR. Studying earthworms (Annelida: Oligochaeta) in South Africa. *African Invertebrates* 2015; **56**(3):779-806.

PACIFICI M, FODEN WB, VISCONTI P, WATSON JE, BUTCHART SHM, KOVAKS KM, SCHEFFERS BR, HOLE DG, MARTIN TG, AKÇAKAYA HR, CORLETT RT, HUNTLEY B, BICKFORD D, CARR J, HOFFMANN AA, MIDGLEY GF, PEARCE-KELLY P, PEARSON RG, WILLIAMS SE, WILLIS SG, YOUNG B, RONDININI. Assessing species vulnerability to climate change. *Nature Climate Change* 2015; **5**:215-224.

PANNELL JR, AULD JR, BRANDVAIN Y, BURD M, BUSCH JW, CHEPTOU PO, CONNER JK, GOLDBERG EE, GRANT AG, GROSSENBACHER DL, HOVICK SM, IGIC B, KALISZ S, PETANIDOU T, RANDLE AM, CASAS RR, PAUW CA, VAMOSI JC, WINN AA. The scope of Baker's law. *New Phytologist* 2015; **208**(3):656-667.

PAYNE R, GRIFFITHS CL, VON DER HEYDEN S, KOCH E. The cushion-star *Parvulastra exigua* in South Africa: One species or more?. *ZooKeys* 2015; **2015**(524):1-16.

PEARCE-HIGGINS JW, OCKENDON N, BAKER DJ, CARR J, WHITE EC, ALMOND REA, AMANO T, BERTRAM E, BRADBURY RB, BRADLEY C, BUTCHART SHM, DOSWALD N , FODEN WB, GILL DJC, GREEN RE, SUTHERLAND WJ, TANNER EVJ. Geographical variation in species' population responses to changes in temperature and precipitation. *Proceedings of the Royal Society B-Biological Sciences* 2015; **282**:1-8.

PÉREZ-FERNÁNDEZ MA, HILL YJ, CALVO-MAGRO E, VALENTINE AJ. Competing Bradyrhizobia strains determine niche occupancy by two native legumes in the Iberian Peninsula. *PLANT ECOLOGY* 2015; **216**:1537-1549.

PFAFF MC, BRANCH GM, FISHER JL, HOFFMANN V, ELLIS AG, LARGIER JL. Delivery of marine larvae to shore requires multiple sequential transport mechanisms. *Ecology* 2015; **96**(5): 1399-1410.

PHAIR N, BARENDE J, SMITH MKS, VON DER HEYDEN S. Molecular analyses confirm genetically distinct populations of two indigenous estuarine fish species in an isolated coastal lake: implications for the management of introduced ichthyofauna. *Conservation Genetics* 2015; **16**:801-809.

PHIRI EE, MCGEOCH MA, CHOWN SL. The abundance structure of *Azorella selago* Hook. f. on sub-Antarctic Marion Island: testing the peak and tail hypothesis. *POLAR BIOLOGY* 2015; **38**:1881 -1890.

PYCEK M, MANCEUR AM, ALBA C, MCGREGOR KF, PERGL J, S'TAJEROVA ' K, CHYTRY M, DANIHELKA J, KARTESZ J, KLIMESOVA J, LUCANOVA M, MORAVCOVA L, NISHINO M, SÁDLO J,

- SUDA J, KUHN I, TICHY L. Naturalization of central European plants in North America: Species traits, habitats, propagule pressure, residence time. *Ecology* 2015; **96**:762–774.
- RAQUET MA, MEASEY GJ, EXBRAYAT JM. Annual variation of ovarian structures of *Boulengerula taitana* (Loveridge 1935), a Kenyan caecilian. *African Journal of Herpetology* 2015; **64**(2):116–134.
- REINECKE AJ, REINECKE SA, VAN WYK M. Kan die gevoeligheid van grondlewende organismes bydra om die volhoubaarheid van landbewerking van olieraffinadery afval te beoordeel?. *South African Journal for Science and Technology / Suid-Afrikaanse Tydskrif vir Natuurwetenskap en Tegnologie* 2015; **34**(1):Art.# 1308, 10 pages.
- RICHARDSON DM, LE ROUX JJ, WILSON JR. Australian acacias as invasive species: lessons to be learnt from regions with long planting histories. *Southern Forests* 2015; **77**(1):31–39.
- RIPLEY B, VISSER V, CHRISTIN P, ARCHIBALD M, MARTIN T, OSBORNE CP. Fire ecology of C3 and C4 grasses depends on evolutionary history and frequency of burning but not photosynthetic type. *Ecology* 2015; **96**(10):2679–2691.
- ROBINSON T, POPE HR, HAWKEN LJ, BINNEMAN C. Predation-driven biotic resistance fails to restrict the spread of a sessile rocky shore invader. *Marine Ecology Progress Series* 2015; **522**:169–179.
- ROBINSON T, SWART C. Distribution and impact of the alien anemone *Sagartia ornata* in the West Coast National Park. *Koedoe* 2015; **57**(1):Art #1246, 8p.
- ROBINSON TJ, CERNOHORSKA H, SCHULZE E, DURAN PUIG A. Molecular cytogenetics of tragelaphine and alcelaphine interspecies hybrids: hybridization, introgression and speciation in some African antelope. *Biology Letters* 2015; **11**:1–5.
- ROPIQUET A, KNIGHT AT, BORN C, MERTINS Q, BALME G, KIRKENDALL L, HUNTER L, SENEKAL C, MATTHEE CA. Implications of spatial genetic patterns for conserving African leopards. *COMPTES RENDUS BIOLOGIES* 2015; **338**(11):728–737.
- ROUGET M, HUI C, RENTERIA J, RICHARDSON DM, WILSON JR. Plant invasions as a biogeographical assay: Vegetation biomes constrain the distribution of invasive alien species assemblages. *SOUTH AFRICAN JOURNAL OF BOTANY* 2015; **101**:24–31.
- ROUSSEAU P, VORSTER PJ, AFONSO AV, VAN WYK AE. Taxonomic notes on *Encephalartos ferox* (Cycadales: Zamiaceae), with the description of a new subspecies from Mozambique. *Phytotaxa* 2015; **204**(2):099–115.
- ROUX DJ, KINGSFORD RT, MCCOOL SF, MCGEOCH MA, FOXCROFT LC. The Role and Value of Conservation Agency Research. *Environmental Management* 2015; **55**(6):1232–1245.
- RUBINOFF D, SAN JOSE M, JOHNSON P, WELLS R, OSBORNE K, LE ROUX JJ. Ghosts of glaciers and the disjunct distribution of a threatened California moth (*Euproserpinus euterpe*). *Biological Conservation* 2015; **184**:278–289.
- RUWANZA S, GAERTNER M, ESLER KJ, RICHARDSON DM. Allelopathic effects of invasive *Eucalyptus camaldulensis* on germination and early growth of four native species in the Western Cape, South Africa. *Southern Forests* 2015; **77**:91–105.
- SADCHATHEESWARAN S, BRANCH GM, ROBINSON T. Changes in habitat complexity resulting from sequential invasions of a rocky shore: implications for community structure. *Biological Invasions* 2015; **17**:1799–1816.
- SAINT-BÉAT B, BAIRD D, ASMUS H, ASMUS R, BACHER C, PACELLA SR, JOHNSON GA, DAVID V, VÉZINA AF, NIQUIL N. Trophic networks: How do theories link ecosystem structure and functioning to stability properties? A review. *Ecological Indicators* 2015; **52**:458–471.
- SANDS AF, MATTHEE S, MFUNE KE, MATTHEE CA. The influence of life history and climate driven diversification on the mtDNA phylogeographic structures of two southern African Mastomys species (Rodentia: Muridae: Murinae). *Biological Journal of the Linnean Society* 2015; **114**:58–68.
- SCHMID B, NOTTEBROCK H, ESLER KJ, PAGEL J, PAUW CA, BÖHNING-GAESE K, SCHURR FM, SCHLEUNING M. Reward quality predicts effects of bird-pollinators on the reproduction of African *Protea* shrubs. *Perspectives in Plant Ecology Evolution and Systematics* 2015; **17**:209–217.

- SHACKLETON R, LE MAITRE DC, RICHARDSON DM. Stakeholder perceptions and practices regarding *Prosopis* (mesquite) invasions and management in South Africa. *Ambio* 2015; **44**:569-581.
- SHACKLETON R, LE MAITRE DC, VAN WILGEN BW, RICHARDSON DM. The impact of invasive alien *Prosopis* species (mesquite) on native plants in different environments in South Africa. *South African Journal of Botany* 2015; **97**:25-31.
- SHACKLETON RT, LE MAITRE DC, RICHARDSON DM. Prosopis invasions in South Africa: Population structures and impacts on native tree population stability. *Journal of Arid Environments* 2015; **114**:70-78.
- SHARPE LL. Handstand scent marking: Height matters to dwarf mongooses. *Animal Behaviour* 2015; **105**:173-179.
- SIEG AE, GAMBONE MM, WALLACE BP, CLUSELLA-TRULLAS S, SPOTILA JR, AVERY HW. Mojave desert tortoise (*Gopherus agassizii*) thermal ecology and reproductive success along a rainfall cline. *Integrative Zoology* 2015; **10**:282-294.
- SIMON CA, SATO-OKOSH W. Polydorid polychaetes on farmed molluscs: distribution, spread and factors contributing to their success. *Aquaculture Environment Interactions* 2015; **7**:147-166.
- SIMON CA. Observations on the composition and larval developmental modes of polydorid pests of farmed oysters (*Crassostrea gigas*) and abalone (*Haliotis midae*) in South Africa. *Invertebrate Reproduction & Development* 2015; **59**(3):124-130.
- SOUZA-ALONSO P, NOVOA PEREZ A, GONZALES L. Soil biochemical alterations and microbial community responses under *Acacia dealbata* Link invasion. *Soil Biology & Biochemistry* 2014; **79**(1):100-108.
- STANWAY R, PAUW CA. Unrivalled specialization in a pollination network from South Africa reveals that specialization increases with latitude only in the Southern Hemisphere. *Journal of Biogeography* 2015; **42**:652-661.
- STEVENSON BC, BORCHERS D, ALTWEgg R, SWIFT RJ, GILLESPIE DM, MEASEY GJ. A general framework for animal density estimation from acoustic detections across a fixed microphone array. *Methods in Ecology and Evolution* 2015; **6**:38-48.
- STOELTING RE, MEASEY GJ, DREWES RC. Population genetics of the Sao Tomé (Gymnophiona: Dermophiidae: *Schistometopum thomense*) reveals strong geographic structuring. *PLoS ONE* 2014; **9**(8):e104628, 13 pages.
- SWART BL, VON DER HEYDEN S, VAN DER MERWE AE, ROODT-WILDING R. Molecular systematics and biogeography of the circumglobally distributed genus *Seriola* (Pisces: Carangidae). *Molecular Phylogenetics and Evolution* 2015; **93**:274-280.
- TE BEEST M, ESLER KJ, RICHARDSON DM. Linking functional traits to impacts of invasive plant species: a case study. *Plant Ecology* 2015; **216**:293-305.
- TERERAI F, GAERTNER M, JACOBS SM, RICHARDSON DM. Eucalyptus camaldulensis invasion in riparian zones reveals few significant effects on soil physico-chemical properties. *River Research and Applications* 2015; **31**(5):590-601.
- TERERAI F, GAERTNER M, JACOBS SM, RICHARDSON DM. Resilience of Invaded Riparian Landscapes: The Potential Role of Soil-Stored Seed Banks. *Environmental Management* 2015; **55**:86-99.
- THOMPSON GD, BELLSTEDT DU, RICHARDSON DM, WILSON JR, LE ROUX JJ. A tree well travelled: global genetic structure of the invasive tree *Acacia saligna*. *JOURNAL OF BIOGEOGRAPHY* 2015; **42**:305-314.
- TILBURY CR, TOLLEY KA. Contributions to the herpetofauna of the Albertine Rift: Two new species of chameleon (Sauria: Chamaeleonidae) from an isolated montane forest, south eastern Democratic Republic of Congo. *Zootaxa* 2015; **3905** (3):345-364.
- TRUTER JC, VAN WYK JH, NEWMAN BK. In vitro screening for endocrine disruptive activity in selected South African harbours and river mouths. *African Journal of Marine Science* 2015; **37**(4):567-574.

VAN DER COLFF D, DREYER LL, VALENTINE AJ, ROETS F. Invasive plant species may serve as a biological corridor for the invertebrate fauna of naturally isolated hosts. *Journal of Insect Conservation* 2015; **19**:863–875.

VAN DER MESCHT L, MATTHEE S, MATTHEE CA. Comparative phylogeography between two generalist flea species reveal a complex interaction between parasite life history and host vicariance: parasite-host association matters. *BMC Evolutionary Biology* 2015; **15**:105, 15 pages.

VAN KLEUNEN M. Global exchange and accumulation of non-native plants. *Nature* 2015; **525**:100–103.

VAN NIEUKERKEN E, GEERTSEMA H. A new leafminer on grapevine and *Rhoicissus* (Vitaceae) in South Africa within an expanded generic concept of *Holocacista* (Insecta, Lepidoptera, Heliozelidae). *ZooKeys* 2015; **2015**(507): 41–97.

VAN WILGEN BW. Plantation forestry and invasive pines in the Cape Floristic Region: Towards conflict resolution. *South African Journal of Science* 2015; **7/8**(111):1–2.

VAN WYK E, JACOBS LEO. Prospects for extirpating small populations of the wetland invader *Melaleuca quinquenervia* from South Africa: a case study from the Western Cape region. *African Journal of Aquatic Science* 2015; **40**(3):299–306.

VANHOYDONCK B, MEASEY GJ, EDWARDS S, MAKHUBO B, TOLLEY KA, HERREL A. The effects of substratum on locomotor performance in lacertid lizards. *Biological Journal of the Linnean Society* 2015; **115**(4):869–881.

VISSEER V, MOLOFSKY J. Ecological niche differentiation of polyploidization is not supported by environmental differences among species in a cosmopolitan grass genus. *American Journal of Botany* 2015; **102**:36–49.

VON DER HEYDEN S, TOMS JA, TESKE P, LAMBERTH SJ, HOLLEMAN W. Contrasting signals of genetic diversity and historical demography between two recently diverged marine and estuarine fish species. *Marine Ecology Progress Series* 2015; **526**:157–167.

WALLER PA, ANDERSON P, HOLMES PM, NEWTON RJ. Developing a species selection index for seed-based ecological restoration in Peninsula Shale Renosterveld, Cape Town. *South African Journal of Botany* 2015; **99**:62–68.

WEISS JD, COTTERILL FPD, SCHLIEWEN UK. Lake Tanganyika—A 'Melting Pot' of Ancient and Young Cichlid Lineages (Teleostei:Cichlidae)??. *PLoS ONE* 2015; **10**(4):e0125043, 29 pages.

WOOD LE, DE GRAVE S. Functional morphology of the first pereiopod in crangonoid shrimps (Crustacea, Decapoda, Caridea, Crangonoidea). *Zoomorphology* 2015; **134**:469–486.

WRIGHT D, BISHOP JM, MATTHEE CA, VON DER HEYDEN S. Genetic isolation by distance reveals restricted dispersal across a range of life histories: Implications for biodiversity conservation planning across highly variable marine environments. *Diversity and Distributions* 2015; **21**(6):698–710.

YANG J, LA SORTE FA, PYCEK M, NOWAK D, YAN Y, MCBRIDE J. The compositional similarity of urban forests among the world's cities is scale dependent. *Global Ecology and Biogeography* 2015; **24**:1413–1423.

Journal Articles (NON-subsidised)

AYLWARD J, DREYER LL, STEENKAMP ET, WINGFIELD MJ, ROETS F. *Knox daviesiae proteae* is not the only *Knox daviesiae*-symbiont of *Protea repens*. *IMA Fungus* 2015; **6**(2):471–476.

GILIOMEE JH, EDGE DA. The ants and scale insects on which the critically endangered butterfly *Chrysoritis dicksoni* (Gabriel) (Lepidoptera: Lycaenidae: Aphnaeinae) depends for its survival. *Metamorphosis* 2015; **26**:38–43.

GUO D, MIDGLEY GF, AYUK J, MUSIL CF. Hydrological Niche of Restionaceae Species in Silvermine South Africa. *Journal of Water Resource and Hydraulic Engineering* 2015; **4**(3):286–292.

JACOBS LEO, VAN WYK E, WILSON JR. Recent discovery of small naturalised populations of *Melaleuca quinquenervia* (Cav.) S.T. Blake in South Africa. *BioInvasions Records* 2015; **4**(1):53–59.

MABIN CA, WILSON JR, ROBINSON T. The Chilean black urchin, *Tetrapygus niger* (Molina, 1782) in South Africa: gone but not forgotten. *BioInvasions Records* 2015; **4**(4):261–264.

RHODIN AGJ, KAISER H, VAN DIJK PP, WÜSTER W, O'SHEA M, ARCHER M, AULIYA M, BOITANI L, MEASEY GJ, ET AL . Comment on Spracklandus Hoser, 2009 (Reptilia, Serpentes, ELAPIDAE): request for confirmation of the availability of the generic name and for the nomenclatural validation of the journal in which it was published. *Bulletin of Zoological Nomenclature* 2015; **72** (1):65–78.

SHACKLETON R, LE MAITRE DC, VAN WILGEN BW, RICHARDSON DM. Use of non-timber forest products from invasive alien *Prosopis* species (mesquite) and native trees in South Africa: implications for management. *Forest Ecosystem* 2015; **2**:16, 11 pages.

Proceedings International

CANAVAN S, WILSON JR, RICHARDSON DM. *Understanding the risks of an emerging global market for cultivating bamboo: considerations for a more responsible dissemination of alien bamboos.* 10th World Bamboo Congress, USA, World Bamboo Organization 2015: 679-684.

Books

MONADJEM A, TAYLOR PJ, DENYS CD, COTTERILL FPD. *Rodents of Sub-Saharan Africa: A biogeographic and taxonomic synthesis.* de Gruyter, Berlin, Germany 2015:1092 pp.

Chapters in Books

DANIELS SR. Crabs, prawns and crayfish - Order Decapoda. In: Griffiths CL, Day JA, Picker MD (eds.) *Freshwater Life: a Field guide to the plants and animals of southern Africa*, Struik Publishers (Pty) Ltd, Century City, South Africa, 2015: 244-248.

FLÜGEL TJ, ECKARDT FD, COTTERILL FPD. The Present Day Drainage Patterns of the Congo River System and their Neogene Evolution. In: De Wit MJ, Guillocheau F, De Wit MCJ (eds.) *Geology and Resource Potential of the Congo Basin*, Springer, Berlin, Germany, 2015: 315-337.

Doctoral completed

ALLEN JL. 'Examining the relative contributions of latitudinal variation and phenotypic plasticity to thermal tolerance in arthropods'. PhD, 2015. 184 pp. Promotor: CLUSELLA-TRULLAS S. Medepromotor: CHOWN SL.

AUGUSTYN WJ. *Evolutionary drivers of temporal and spatial host use patterns in restio leafhoppers Cephalelini (Cicadellidae)*. PhD, 2015. 200 pp. Promotor: ELLIS AG. Medepromotor: ANDERSON BC.

DAVID A. *An integrated larval development and population genetics approach for predicting the establishment and dispersal potential of a recently introduced polychaete (Annelida: Spionidae) in southern Africa*. PhD, 2015. 149 pp. Promotor: SIMON CA. Medepromotor: MATTHEE CA.

DE WAAL C. *Dispersal, dormancy, life history and breeding systems of southern African Asteraceae: risk-reducing strategies in unpredictable environments*. PhD, 2015. 0 pp. Promotor: ANDERSON BC. Medepromotor: ELLIS AG.

VARDIEN W. *Phosphorus mobilization and localisation in the roots and nodules of a Cape Floristic Region legume, and its impact on nitrogen fixation*. PhD, 2015. 146 pp.

Masters completed

COOPER TJJ. *The effects of land use changes on the distribution of forest dependent bird species in South Africa*. MSc, 2015. 132 pp.

DANIELS RJ. *Dispersal and gene flow in the Southern African endemic lacertid, Pedioplanis lineoocellata, based on microsatellite and capture-mark-recapture*. MSc, 2015. 141 pp.

LEKGARI GLP. *OVER-EXPRESSING ARABIDOPSISArabidopsis MYB TRANSCRIPTION FACTORS IN Salvia stenophylla AND SUGARCANE AND DEVELOPMENT OF MICROPROPAGATION PROTOCOL FOR*

Salvia repens . MSc, 2015. 136 pp. Studieleier: MAKUNGA NP. Medestudieleier: HILLS PN, KOSSMANN JM.

LIU WPA. "Diversity of the genus *Seira* (*Collembola: Entomobryidae: Seirinae*) in the Fynbos and Southern Afrotropical forest" . MSc, 2015. 159 pp.

PHAIR D. *Dispersal strategies, rapid geographic range expansion and their effects on invasive European starlings, *Sturnus vulgaris*, in South Africa and Australia*. MSc, 2015. 152 pp. Studieleier: HUI C. Medestudieleier: LE ROUX JJ, VISSER V.

POPE HR. *Interactions between the invasive barnacle *Balanus glandula* and indigenous barnacles along the South African coast: the role of temperature and the implications of climate change*. MSc, 2015. 75 pp. Studieleier: ROBINSON T.

WILLIAMS L. *Genetic structure of pest polychaetes (Annelida: Spionidae) infesting *Crassostrea gigas* in southern Africa: Are pests being moved with oysters?*. MSc, 2015. 88 pp. Studieleier: SIMON CA. Medestudieleier: MATTHEE CA.

SIGNED BY HOD :

.....

NAME :

.....

DATE :

.....

* * * END OF REPORT * * *
