

Research Report

Plant- en Dierkunde : 2019

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)

AIZEN MA, AGUIAR S, BIESMEIJER JC, GARIBALDI LA, INOUYE DW, JUNG C, MARTINS DJ, MEDEL R, MORALES CL, NGO HT, PAUW CA, PAXTON RJ, SÁEZ A, SEYMOUR C. Global agricultural productivity is threatened by increasing pollinator dependence without a parallel increase in crop diversification. *Global Change Biology* 2019; **25**:3516-3527.

ANSONG M, PERGL J, ESSL F, HEJDA M, VAN KLEUNEN M, RANDALL R, PYCEK P. Naturalized and invasive alien flora of Ghana. *Biological Invasions* 2019; **21**(3):669-683.

ARAÚJO MB, ANDERSON RP, BARBOSA AM, BEALE CM, DORMANN CF, EARLY R, GARCIA R, GUISAN A, MAIORANO L, NAIMI B, O'HARA RB, ZIMMERMANN NE, RAHBEK C. Standards for distribution models in biodiversity assessments. *Science Advances* 2019; **5**(1):Article number eaat4858, 11 pages.

AREMU AO, MASONDO N, GRUZ J, DOLEŽAL K, VAN STADEN J. Potential of Smoke-Water and One of Its Active Compounds (karrikinolide, KAR1) on the Phytochemical and Antioxidant Activity of Eucomis autumnalis. *Antioxidants* 2019; **8**(12):e611, 15 pages.

AYLWARD J, ROETS F, DREYER LL, WINGFIELD MJ. Teratosphaeria stem canker of *Eucalyptus*: two pathogens, one devastating disease. *MOLECULAR PLANT PATHOLOGY* 2019; **20**:8-19.

AYLWARD J, ROETS F, DREYER LL, WINGFIELD MJ. Teratosphaeria stem canker of *Eucalyptus*: two pathogens, one devastating disease. *MOLECULAR PLANT PATHOLOGY* 2019; **20**(1):8-19.

BABALOLA OO, TRUTER JC, VAN WYK JH. Mortality, teratogenicity and growth inhibition of three glyphosate formulations using Frog Embryo Teratogenesis Assay-Xenopus. *JOURNAL OF APPLIED TOXICOLOGY* 2019; **39**:1257-1266.

BAIRD D, ASMUS H, ASMUS R, HORN S, DE LA VEGA C. Ecosystem response to increasing ambient water temperatures due to climate warming in the Sylt-Romo Bight, northern Wadden Sea, Germany. *Estuarine, Coastal and Shelf Science* 2019; **228**:e106322, 29 pages.

BARNES A, DANIELS SR. On the importance of fine-scale sampling in detecting alpha taxonomic diversity among saproxylic invertebrates: A velvet worm (Onychophora: Opisthopatus amaxhosa) template. *Zoologica Scripta* 2019; **48**(2):243-262.

BARRA PJ, PONTIGO S, DELGADO M, PARRA ALMUN L, DURAN P, VALENTINE AJ, JORQUERA MA, MORA ML. Phosphobacteria inoculation enhances the benefit of P-fertilization on *Lolium perenne* in soils contrasting in P-availability. *Soil Biology and Biochemistry* 2019; **136**:Article number 107516, 11 pages.

BARTON M, CLUSELLA-TRULLAS S, TERBLANCHE JS. Spatial scale, topography and thermoregulatory behaviour interact when modelling species' thermal niches. *Ecography* 2019; **42**:376-389.

BAUER AM, CHILDERS JL, BROEKHOVEN C, MOUTON PLN. A new nucras Gray, 1838 (Squamata: Lacertidae) from the strandveld of the western cape, South Africa. *Zootaxa* 2019; **4560**(1):149-163.

BAXTER-GILBERT JH, PARSONS J, BOSTOCK C, RILEY J. Hamerkop (*Scopus umbretta*) predation on an Augrabies flat lizard (*Platysaurus broadleyi*). *Herpetological Bulletin* 2019; **148**:37-38.

BAXTER-GILBERT JH, RILEY J, WHITING MJ. Bold New World: urbanization promotes an innate behavioral trait in a lizard. *BEHAVIORAL ECOLOGY AND SOCIOBIOLOGY* 2019; **73**(8):Article number 105, 10 pages.

BERGER C, BIERI M, BRADSHAW K, BRÜMMER C, CLEMEN T, HICKLER T, KUTSCH WL, LENFERS UA, MARTENS C, MIDGLEY GF, MUKWASHI K, ODIPO V, STEVENS N, TWINE W. Linking scales and disciplines: an interdisciplinary cross-scale approach to supporting climate-relevant ecosystem management. *Climatic Change* 2019; **156**:139-150.

BISHOP TR, PARR CL, GIBB H, VAN RENSBURG BJ, BRASCHLER BM, CHOWN SL, FOORD SH, LAMY K, MUNYAI TC, OKEY I, TSHIVHANDEKANO PG, WERENKRAUT V, ROBERTSON MP.

Thermoregulatory traits combine with range shifts to alter the future of montane ant assemblages. *Global Change Biology* 2019; **25**(6):2162-2173.

- BLACKBURN M, BELLARD C, RICCIARDI A. Alien versus native species as drivers of recent extinctions. *FRONTIERS IN ECOLOGY AND THE ENVIRONMENT* 2019; **17**(4):203-207.
- BLETTLER MCM, OBERHOLSTER PJ, MADLALA T, EBERLE EG, AMSLER ML, DE KLERK AR, TRUTER JC, MARCHESE MR, LATOSINSKI FG, SZUPIANY R. Habitat characteristics, hydrology and anthropogenic pollution as important factors for distribution of biota in the middle Paraná River, Argentina. *Ecohydrology and Hydrobiology* 2019; **19**(2):296-306.
- BOND WJ, STEVENS N, MIDGLEY GF, LEHMANN CER. The trouble with trees: afforestation plans for Africa. *Trends in Ecology and Evolution* 2019; **34**(11):963-965.
- BORIE F, AGUILERA P, CASTILLO C, VALENTINE AJ, SEGUEL A, BAREA JM, CORNEJO P. Revisiting the Nature of Phosphorus Pools in Chilean Volcanic Soils as a Basis for Arbuscular Mycorrhizal Management in Plant P Acquisition. *Journal of Soil Science and Plant Nutrition* 2019; **19**(2):390-401.
- BORTOLUS A, ADAM P, ADAMS J, AINOUCHE ML, AYRES D, BERTNESS MD, BOUMA TJ, BRUNO JF, CACADOR I, CARLTON JT, CASTILLO JM, RICHARDSON DM, ET AL. Supporting Spartina: Interdisciplinary perspective shows Spartina as a distinct solid genus. *Ecology* 2019; **100**(11):e02863.
- BOSC C, HUI C, ROETS F, PAUW CA. Importance of biotic niches versus drift in a plant-inhabiting arthropod community depends on rarity and trophic group. *Ecography* 2019; **42**:1926-1935.
- BOTHMA JC, MATTHEE S, MATTHEE CA. The evolutionary history of parasitic sucking lice and their rodent hosts: A case of evolutionary co-divergences. *Zoologica Scripta* 2020; **49**:72-85.
- BROOKS TM, PIMM SL, AKÇAKAYA HR, BUCHANAN G, BUTCHART SHM, FODEN WB, HILTON-TAYLOR C, HOFFMANN M, JENKINS CN, JOPPA L, LI BV, MENON V, ET .. Measuring Terrestrial Area of Habitat (AOH) and Its Utility for the IUCN Red List. *Trends in Ecology and Evolution* 2019; **34**(11):977-986.
- BUCZKOWSKI G, WOSSLER TC. Controlling invasive Argentine ants, *Linepithema humile*, in conservation areas using horizontal insecticide transfer. *Scientific Reports* 2019; **9**:19495, 7 Pages.
- BURNS JH, BENNETT JM, LI J, XIA J, ARCEO-GÓMEZ G, BURD M, BURKLE LA, DURKA W, ELLIS AG, FREITAS L, RODGER JG, VAMOSI JC, ET .. Plant traits moderate pollen limitation of introduced and native plants: a phylogenetic meta-analysis of global scale. *New Phytologist* 2019; **223**(4):2063-2075.
- BURNS JH, BENNETT JM, LI J, XIA J, ARCEO-GOMEZ G, BURD M, BURKLE LA, DURKA W, ELLIS AG, RODGER JG. Plant traits moderate pollen limitation of introduced and native plants: a phylogenetic meta-analysis of global scale. *New Phytologist* 2019; **223**:2063-2075.
- BUSSCHAU T, CONRADIE W, DANIELS SR. Evidence for cryptic diversification in a rupicolous forest-dwelling gecko (Gekkonidae: Afroedura pondolia) from a biodiversity hotspot. *Molecular Phylogenetics and Evolution* 2019; **139**:Article number 106549, 15 pages.
- CANAVAN S, MEYERSON LA, PACKER JG, PYŠEK P, MAUREL N, LOZANO V, RICHARDSON DM, BRUNDU G, CANAVAN K, CICATELLI A, ČUDA J, DAWSON W, ESSL F, WILSON JR. Tall-statured grasses: a useful functional group for invasion science. *Biological Invasions* 2019; **21**(1):37-58.
- CANAVAN S, RICHARDSON DM, LE ROUX JJ, WILSON JR. Alien Bamboos in South Africa: a Socio-Historical Perspective. *Human Ecology* 2019; **47**(1):121-133.
- CASTRO-DÍEZ P, VAZ AS, SILVA JS, VAN LOO M, ALONSO A, APONTE C, BAYÓN A, BELLINGHAM PJ, CHIUFFO MC, DIMANNO N, JULIAN K, KANDERT S, POTGIETER LJ, RICHARDSON DM, SHACKLETON RT, ET AL. Global effects of non-native tree species on multiple ecosystem services. *Biological Reviews* 2019; **94**(4):1477-1501.
- CHAU JH, BORN C, MCGEOCH MA, BERGSTROM D, SHAW J, TERAUDS A, MAIRAL PISA M, LE ROUX JJ, JANSEN VAN VUUREN B. The influence of landscape, climate and history on spatial genetic patterns in keystone plants (*Azorella*) on sub-Antarctic islands. *MOLECULAR ECOLOGY* 2019; **28**(14):3291-3305.
- CHENEY CC, ESLER KJ, FOXCROFT LC, VAN WILGEN NJ. Scenarios for the management of invasive Acacia species in a protected area: Implications of clearing efficacy. *Journal of Environmental Management* 2019; **238**:274-282.
- CUMBERLIDGE N, NDONGO PAM, CLARK PF, DANIELS SR. A new genus for the freshwater crab *Potamonemus asylos* Cumberlidge, 1993, (Brachyura: Potamoidea: Potamonautesidae) from Cameroon, Central Africa, with a key to the genera of the Potamonautesinae. *JOURNAL OF NATURAL HISTORY* 2019; **53**(11-12):659-676.

DA SILVA R, PEARCE-KELLY P, ZIMMERMAN B, KNOTT M, FODEN WB, CONDE DA. Assessing the conservation potential of fish and corals in aquariums globally. *JOURNAL FOR NATURE CONSERVATION* 2019; **48**:1-11.

DANIELS SR, BUSSCHAU T, CUMBERLIDGE N. Two new species of freshwater crabs of the genus Potamonautes MacLeay, 1838 (Decapoda: Brachyura: Potamonautilidae) from the forests of KwaZulu-Natal, South Africa. *Journal of Crustacean Biology* 2019; **39**(4):426-435.

DAVIES SJ, HILL M, MCGEOCH MA, CLUSELLA-TRULLAS S. Niche shift and resource supplementation facilitate an amphibian range expansion. *Diversity and Distributions* 2019; **25**(1):154-165.

DE JAGER ML, ANDERSON BC. When is resemblance mimicry?. *Functional Ecology* 2019; **33**:1586-1596.

DE JAGER ML, PEAKALL R. Experimental examination of pollinator-mediated selection in a sexually deceptive orchid. *Annals of Botany* 2019; **123**(2):347-354.

DE JONGE VN, SCHUCKEL U, BAIRD D. Effects of spatial scale, species aggregation and balancing on carbon flows and ecological network analysis indicators of food webs. *Marine Ecology Progress Series* 2019; **613**:15-47.

DE JONGE VN, SCHUCKEL U, BAIRD D. Subsets of food webs cannot be used as a substitute to assess the functioning of entire ecosystems. *Marine Ecology Progress Series* 2019; **613**:49-66.

DENG C, HAO X, SHI M, FU R, WANG Y, ZHANG Y, ZHOU W, FENG Y, MAKUNGA NP, KAI G. Tanshinone production could be increased by the expression of SmWRKY2 in Salvia miltiorrhiza hairy roots. *Plant Science* 2019; **284**:1-8.

DIAZ S, SETTELE J, BRONDÍZIO ES, NGO HT, AGARD J, ARNETH A, BALVANERA P, BRAUMAN KA, BUTCHART SHM, CHAN KMA, GARIBALDI LA, ICHII K, MIDGLEY GF, ET AL. Pervasive human-driven decline of life on Earth points to the need for transformative change. *Science* 2019; **366**(6471):Article number eaax3100, 12 pages.

DU PLESSIS A, BROEKHOVEN C, YADROITSAVA I, YADROITSEV I, HANDS CH, KUNJU R, BHATE D. Beautiful and Functional: A Review of Biomimetic Design in Additive Manufacturing . *Additive Manufacturing* 2019; **27**:408-427.

DU PLESSIS A, BROEKHOVEN C. Looking deep into nature: A review of micro-computed tomography in biomimicry . *Acta Biomaterialia* 2019; **85**:27-40.

DUNCAN RP, CASSEY P, PIGOT A, BLACKBURN M. A general model for alien species richness. *Biological Invasions* 2019; **21**(8):2665-2677.

DYER BM, COOPER J, CRAWFORD RJM, SHERLEY RB, SOMHLABA S, COCKCROFT A, UPFOLD L, MAKHADO AB. Geographical and temporal variation in the diet of Bank Cormorants Phalacrocorax neglectus in South Africa. *OSTRICH* 2019; **90**(4):373-390.

ELÍAS R, SARACHO-BOTERO MA, SIMON CA. Protocirrineris (Polychaeta:Cirratulidae) in South Africa and description of two new species. *REVISTA DE BIOLOGIA TROPICAL* 2019; **67**:70-80.

ENGELBRECHT HM, BRANCH WR, GREENBAUM E, ALEXANDER G, JACKSON K, BURGER M, CONRADIE W, KUSAMBA C, ZASSI-BOULOU AG, TOLLEY KA. Diversifying into the branches: Species boundaries in African green and bush snakes, Philothamnus (Serpentes: Colubridae). *Molecular Phylogenetics and Evolution* 2019; **130**:357-365.

ENQUIST BJ, FENG X, BOYLE B, MAITNER B, NEWMAN EA, JORGENSEN PM, ROEHRDANZ PM, THIERS BM, BURGER JR, CORLETT RT, COUVREUR TLP, DAUBY G, FODEN WB, MIDGLEY GF, ET AL. The commonness of rarity: Global and future distribution of rarity across land plants. *Science Advances* 2019; **5**:eaaz0414, 13 pages.

ESCUDEIRO A, ADEGA F, ROBINSON TJ, HESLOP-HARRISON JS, CHAVES R. Conservation, divergence, and functions of centromeric satellite DNA families in the bovidae. *Genome Biology and Evolution* 2019; **11**(4):1152-1165.

ESSL F, DULLINGER S, GENOVESI P, HULME PE, JESCHKE JM, KATSANEVAKIS S, KUHN I, LENZNER B, PAUCHARD A, PYSEK P, RABITSCH W, RICHARDSON DM, SEEBENS H, ET AL. A conceptual framework for range-expanding species that track human-induced environmental change. *Bioscience* 2019; **69**(11):908-919.

FATH BD, ASMUS H, ASMUS R, BAIRD D, BORRETT S, DE JONGE VN, LUDOVISI A, NIQUIL N, SCHÄRLER UM, SCHÜCKEL U, WOLFF M. Ecological network analysis metrics: The need for an entire ecosystem approach in management and policy. *Ocean and Coastal Management* 2019; **174**:1-14.

FENESI A, SÁNDOR D, PYCEK P, DAWSON W, RUPRECHT E, ESSL F, KREFT H, PERGL J, WEIGELT P, WINTER M, VAN KLEUNEN M. The role of fruit heteromorphism in the naturalization of Asteraceae. *Annals of Botany* 2019; **123**(6):1043-1052.

FEY SB, VASSEUR DA, ALUJEVIC K, KROEKER KJ, LOGAN ML, O CONNOR MI, RUDOLF VHW, DELONG JP, PEACOR S, SELDEN RL, SIH A, CLUSELLA-TRULLAS S. Opportunities for behavioral rescue under rapid environmental change. *Global Change Biology Bioenergy* 2019; **25**(9):3110-3120.

FOSTER JD, ELLIS AG, FOXCROFT LC, CARROLL S, LE ROUX JJ. The potential evolutionary impact of invasive balloon vines on native soapberry bugs in South Africa. *NeoBiota* 2019; **49**:19-35.

FOXCROFT LC, SPEAR D, VAN WILGEN NJ, MCGEOCH MA. Assessing the association between pathways of alien plant invaders and their impacts in protected areas. *NeoBiota* 2019; **43**:1-25.

FROST CM, ALLEN WJ, COURCHAMP F, JESCHKE JM, SAUL W, WARDLE DA. Using Network Theory to Understand and Predict Biological Invasions. *Trends in Ecology and Evolution* 2019; **34**(9):831-843.

GALLIEN L, THORNHILL AH, ZURELL D, MILLER JT, RICHARDSON DM. Global predictors of alien plant establishment success: Combining niche and trait proxies. *Proceedings of the Royal Society B: Biological Sciences* 2019; **286**(1897):Article number 20182477, 8 pages.

GARCIA R, ALLEN JL, CLUSELLA-TRULLAS S. Rethinking the scale and formulation of indices assessing organism vulnerability to warmer habitats. *Ecography* 2019; **42**:1024-1036.

GARCIA R, CLUSELLA-TRULLAS S. Thermal landscape change as a driver of ectotherm responses to plant invasions. *Proceedings of the Royal Society B: Biological Sciences* 2019; **286**(1905):Article number 20191020, 9 pages.

GARCÍA-VERDUGO C, CAUJAPÉ-CASTELLS J, ILLERA JC, MAIRAL PISA M, PATIÑO J, REYES-BETANCORT A, SCHOLZ S. Pleistocene extinctions as drivers of biogeographical patterns on the easternmost Canary Islands. *Journal of Biogeography* 2019; **46**(5):845-859.

GIBSON KM, NGUYEN BN, NEUMANN LM, MILLER MA, BUSS P, DANIELS SR, AHN MJ, CRANDALL KA, PUKAZHENTHI B. Gut microbiome differences between wild and captive black rhinoceros - implications for rhino health. *Scientific Reports* 2019; **9**(1):1-11.

GILIOMEE JH, MILLAR IM. An Assessment of the Seychelles Scale *Icerya seychellarum* (Westwood) as a Potential Insect of Economic Importance in South Africa. *African Entomology* 2019; **27**(1):258-260.

GIORIA M, LE ROUX JJ, HIRSCH H, MORAVCOVA L, PYSEK P. Characteristics of the soil seed bank of invasive and non-invasive plants in their native and alien distribution range. *Biological Invasions* 2019; **21**:2313-2332.

GROENEWALD L, MORCILLO RJL, MIDGLEY GF, KLEINERT A, POIRIER Y, VALENTINE AJ. Partitioning of above and below ground costs during phosphate stress in *Medicago truncatula*. *JOURNAL OF PLANT NUTRITION AND SOIL SCIENCE* 2019; **42**(7):759-771.

GROOM QJ, DESMET P, REYSERHOVE L, ADRIAENS T, OLDONI D, VANDERHOEVEN S, BASKAUF SJ, CHAPMAN A, MCGEOCH MA, WALLS R, WIECZOREK J, WILSON JR, ET AL. Improving Darwin Core for research and management of alien species. *Biodiversity Information Science and Standards*, 3, 10 Oct, e38084. *Biodiversity* 2019; **3**:e38084, 24 pages.

HIRSCH H, CASTILLO ML, IMPSON FAC, KLEINJAN C, RICHARDSON DM, LE ROUX JJ. Ghosts from the past: even comprehensive sampling of the native range may not be enough to unravel the introduction history of invasive species—the case of *Acacia dealbata* invasions in South Africa. *AMERICAN JOURNAL OF BOTANY* 2019; **106**(3):352-362.

HUI C, RICHARDSON DM. How to Invade an Ecological Network. *Trends in Ecology and Evolution* 2019; **34**(2):121-131.

HUI C, RICHARDSON DM. Network Invasion as an Open Dynamical System: Response to Rossberg and Barabás. *Trends in Ecology and Evolution* 2019; **34**(5):386-387.

JAMI F, MARINCOWITZ S, SLIPPERS B, CROUS PW, LE ROUX JJ, RICHARDSON DM, WINGFIELD MJ. Botryosphaeriaceae associated with *Acacia heterophylla* (La Réunion) and *Acacia koa* (Hawaii). *Fungal Biology* 2019; **123**:783-790.

JAVAL M, THOMAS S, LEHMAN BP, BARTON M, CONLONG DE, DU PLESSIS A, TERBLANCHE JS. The Effect of Oxygen Limitation on a Xylophagous Insect's Heat Tolerance Is Influenced by Life-Stage Through Variation in Aerobic Scope and Respiratory Anatomy. *Frontiers in Physiology* 2019; **10**:1426, 11 pages.

JOOSTE M, MIDGLEY GF, OBERLANDER KC, DREYER LL. Oxalis seeds from the Cape Flora have a spectrum of germination strategies. *AMERICAN JOURNAL OF BOTANY* 2019; **106**(6):879-893.

JOOSTE M, ROETS F, MIDGLEY GF, OBERLANDER KC, DREYER LL. Nitrogen-fixing bacteria and *Oxalis* – evidence for a vertically inherited bacterial symbiosis. *BMC PLANT BIOLOGY* 2019; **19**(441):1-10.

KAMUTANDO CN, VIKRAM S, KAMGAN-NKUEKAM G, MAKHALANYANE TP, GREVE M, LE ROUX JJ, RICHARDSON DM, COWAN D, VALVERDE A. The functional potential of the rhizospheric microbiome of an Invasive Tree Species, *Acacia dealbata*. *MICROBIAL ECOLOGY* 2019; **77**(1):191-200.

KEET J, ELLIS AG, HUI C, LE ROUX JJ. Strong spatial and temporal turnover of soil bacterial communities in South Africa's hyperdiverse fynbos biome. *Soil Biology and Biochemistry* 2019; **136**:Article number 107541, 12 pages.

KEMP JE, BERGH NG, SOARES AP, ELLIS AG. Dominant pollinators drive non-random community assembly and shared flower colour patterns in daisy communities. *Annals of Botany* 2019; **123**(2):277-288.

KEMP JE, ELLIS AG. Cryptic petal coloration decreases floral appärence and herbivory in nocturnally closing daisies. *Functional Ecology* 2019; **33**:2130-2141.

KOCHEY JK, DANIELS SR, PLAGGE C, MEHRABI S, HARTMANN L, SCHRENK F, PLATH M, KLAUS S. Genetic differentiation of the Malawi blue crab reflects Pleistocene desiccation of Lake Malawi (Brachyura, Potamonautes lirrangensis (Rathbun, 1904)). *HYDROBIOLOGIA* 2019; **843**:1-11.

KOTZE DC, TERERAI F, GRUNDLING PL. Assessing, with limited resources, the ecological outcomes of wetland restoration: a South African case. *RESTORATION ECOLOGY* 2019; **27**(3):495-503.

KOUTIKA LS, RICHARDSON DM. Acacia mangium Willd: benefits and threats associated with its increasing use around the world. *Forest Ecosystems* 2019; **6**(1):Article number 2, 13 pages.

KRASNOV BR, SHENBROT GI, KORALLO-VINARSKAYA NP, VINARSKI MV, VAN DER MESCHT L, WARBURTON EM, KHOKHLOVA IS. Do the pattern and strength of species associations in ectoparasite communities conform to biogeographic rules?. *Parasitology Research* 2019; **118**(4):1113-1125.

KRUGER N, MEASEY GJ, HERREL AY, SECONDI J. Anti-predator strategies of the invasive African clawed frog, *Xenopus laevis*, to native and invasive predators in western France. *Aquatic Invasions* 2019; **14**(3):433-443.

KULENKAMPFF KS, VAN ZYL L, KLAUS S, DANIELS SR. Molecular evidence for cryptic species in the common slug eating snake *duberria lutrix lutrix* (Squamata, Lamprophiidae) from South Africa. *ZooKeys* 2019; **219**(838):133-154.

LATOMBE GFR, CANAVAN S, HIRSCH H, HUI C, KUMSCHICK S, NSIKANI MM, POTGIETER LJ, ROBINSON T, SAUL W, TURNER SC, WILSON JR, YANNELLI LUCERO FA, RICHARDSON DM. A four-component classification of uncertainties in biological invasions: implications for management. *Ecosphere* 2019; **10**(4):Article number e02669.

LE ROUX JJ, HUI C, CASTILLO ML, IRIONDO JM, KEET J, KHAPUGIN AA, MÉDAIL F, REJMANEK M. Recent Anthropogenic Plant Extinctions Differ in Biodiversity Hotspots and Coldspots. *CURRENT BIOLOGY* 2019; **29**(17):2912-2918.

LEAVER J, CARSTENS JC, CHERRY MI. Harvesting of forest products and implications for Afrotropical bird communities in a montane forest of the Eastern Cape, South Africa. *Forest Ecosystems* 2019; **6**:Article number: 48, 15 pages.

LEAVER J, MULVANEY J, EHLERS SMITH DA, EHLERS SMITH YC, CHERRY MI. Response of bird functional diversity to forest product harvesting in the Eastern Cape, South Africa. *FOREST ECOLOGY AND MANAGEMENT* 2019; **445**:82-95.

LEHMAN BP, JAVAL M, TERBLANCHE JS. Oxygen limitation is not the cause of death during lethal heat exposure in an insect. *Biological Letters* 2019; **155**:1-4.

LIU X, BLACKBURN M, SONG T, LI X, HUANG C, LI Y. Risks of Biological Invasion on the Belt and Road. *CURRENT BIOLOGY* 2019; **29**(3):499-505.

LOGAN M, VAN BERKEL J, CLUSELLA-TRULLAS S. The Bogert Effect and environmental heterogeneity. *Oecologia* 2019; **191**(4):817-827.

LOTZE E, FRAZENBURG MR, TURKETTI SS, DREYER LL. Calcium dynamics of reproductive apple buds during the dormant season in the Western Cape, South Africa. *Scientia Horticulturae* 2019; **256**:Article number 108533, 5 pages.

MACFADYEN S, HUI C, VERBURG PH, VAN TEEFFELEN AJA. Spatiotemporal distribution dynamics of elephants in response to density, rainfall, rivers and fire in Kruger National Park, South Africa. *Diversity and Distributions* 2019; **25**(6):880-894.

MAGADLELA A, MORCILLO RJL, KLEINERT A, VENTER M, STEENKAMP ET, VALENTINE AJ. Glutamate dehydrogenase is essential in the acclimation of *Virgilia divaricata*, a legume indigenous to the nutrient-poor Mediterranean-type ecosystems of the Cape Fynbos. *JOURNAL OF PLANT PHYSIOLOGY* 2019; **243**:Article number 153053, 8 pages.

MAKONYA GM, OGOLA JBO, MUTHAMA MUASYA A, CRESPO O, MASEKO S, VALENTINE AJ, OTTOSEN CO, ROSENQVIST E, CHIMPHANGO SBM. Chlorophyll fluorescence and carbohydrate concentration as field selection traits for heat tolerant chickpea genotypes. *PLANT PHYSIOLOGY AND BIOCHEMISTRY* 2019; **141**:172-182.

MASONDO N, AREMU AO, KULKARNI MG, PETŘÍK I, PLAČKOVÁ L, ŠUBRTOVÁ M, NOVÁK O, GRÚZ J, DOLEŽAL K, STRNAD M, FINNIE JF, VAN STADEN J. How Do Different Watering Regimes Affect the Growth, Chlorophyll Fluorescence, Phytohormone, and Phenolic Acid Content of Greenhouse-Grown Ceratotheca triloba?. *JOURNAL OF PLANT GROWTH REGULATION* 2019; **38**(2):385-399.

MASONDO N, AREMU AO, KULKARNI MG, PETRIK I, PLACKOVA L, SUBRTOVA M, NOVAK O, GRUZ J, DOLEZAL K, STRNAD M, FINNIE JF, VAN STADEN J. Elucidating the role of Kelpak® on the growth, phytohormone composition, and phenolic acids in macronutrient-stressed Ceratotheca triloba. *JOURNAL OF APPLIED PHYCOLOGY* 2019; **31**(4):2687-2697.

MASONDO N, MAKUNGA NP. Advancement of analytical techniques in some South African commercialized medicinal plants: Current and future perspectives. *South African Journal of Botany* 2019; **126**:40-57.

MASONDO N, STAFFORD GI, AREMU AO, MAKUNGA NP. Acetylcholinesterase inhibitors from southern African plants: An overview of ethnobotanical, pharmacological potential and phytochemical research including and beyond Alzheimer's disease treatment. *South African Journal of Botany* 2019; **120**:39-64.

MATHAKUTHA R, STEYN C, LE ROUX PC, BLOM IJ, CHOWN SL, DARU BH, RIPLEY B, LOUW A, GREVE M. Invasive species differ in key functional traits from native and non-invasive alien plant species. *Journal of Vegetation Science* 2019; **30**:994-1006.

MATIWANE SE, AREMU AO, VALENTINE AJ, MAGADLELA A. Nutritional status of KwaZulu-Natal soils affects microbe symbiosis, nitrogen utilization and growth of Vigna radiata (L.) R.Walczak. *South African Journal of Botany* 2019; **126**:115-120.

MBONGWA NA, HUI C, PULFRICH A, VON DER HEYDEN S. Every beach an island - deep population divergence and possible loss of genetic diversity in Tylös granulatus, a sandy shore isopod. *Marine Ecology Progress Series* 2019; **614**:123-111.

MEASEY GJ, BASSON AC, REBELO AD, NUNES AN, VIMERCATI G, LOUW M, MOHANTY NP. Why have a pet amphibian? Insights from YouTube. *Frontiers in Ecology and Evolution* 2019; **7**:Article number 52, 8 pages.

MEASEY GJ, TARRANT J, REBELO AD, TURNER AA, DU PREEZ LH, MOKHATLA MM, CONRADIE W. Has strategic planning made a difference to amphibian conservation research in South Africa?. *Bothalia - African Biodiversity & Conservation* 2019; **49**(1):a2428, 13 pages.

MEASEY GJ, VISSER V, DGEBUADZE Y, INDERJIT INDERJIT, LI B, DECHOUM M, ZILLER SR, RICHARDSON DM. The world needs BRICS countries to build capacity in invasion science. *PLOS BIOLOGY* 2019; **17**(9):e3000404, 7 pages.

MINNAAR C, ANDERSON BC, DE JAGER ML, KARRON JD. Plant-pollinator interactions along the pathway to paternity. *Annals of Botany* 2019; **123**(2):225-245.

MINNAAR C, ANDERSON BC. Using quantum dots as pollen labels to track the fates of individual pollen grains. *Methods in Ecology and Evolution* 2019; **10**(5):604-614.

MINNAAR C, DE JAGER ML, ANDERSON BC. Intraspecific divergence in floral-tube length promotes asymmetric pollen movement and reproductive isolation. *New Phytologist* 2019; **224**:1160-1170.

MIRANDA NAF, PEER N, ISHAK MZB, MARSHALL DJ. Heat-wave tolerance in tropical intertidal animals: accounting for thermal and desiccation tolerances. *Ecological Indicators* 2019; **107**:Article number 105561, 6 pages.

MOHANTY NP, MEASEY GJ. No survival of native larval frogs in the presence of invasive Indian bullfrog Hoplobatrachus tigerinus tadpoles. *Biological Invasions* 2019; **21**:2281-2286.

MOHANTY NP, MEASEY GJ. Reconstructing biological invasions using public surveys: a new approach to retrospectively assess spatio-temporal changes in invasive spread. *Biological Invasions* 2019; **21**(2):467-480.

MOHANTY NP, MEASEY GJ. The global pet trade in amphibians: species traits, taxonomic bias, and future directions. *Biodiversity and Conservation* 2019; **28**(14):3915-3923.

MOKHATLA MM, MEASEY GJ, SMIT B. The role of ambient temperature and body mass on body temperature, standard metabolic rate and evaporative water loss in southern African anurans of different habitat specialisation. *PeerJ* 2019; **7**:e7885, 21 pages.

MORECROFT MD, DUFFIELD S, HARLEY M, PEARCE-HIGGINS JW, STEVENS N, WATTS O, WHITAKER J. Measuring the success of climate change adaptation and mitigation in terrestrial ecosystems. *Science* 2019; **366**(6471):Article number eaaw9256, 5 pages.

- MOUTON M, ARCHER E. Legitimation code theory to facilitate transition from high school to first-year biology. *JOURNAL OF BIOLOGICAL EDUCATION* 2019; **53**(1):2-20.
- MUNGI NA, KAUSHIK M, MOHANTY NP, RASTOGI R, ANTONY JOHNSON J, QURESHI Q. Identifying knowledge gaps in the research and management of invasive species in India. *BIOLOGIA* 2019; **74**(6):623-629.
- NDLELA LL, OBERHOLSTER PJ, VAN WYK JH, CHENG PH. A laboratory based exposure of *Microcystis* and *Oscillatoria* cyanobacterial isolates to heterotrophic bacteria. *TOXICON* 2019; **165**:1-12.
- NIEMAN WA, LESLIE AJ, WILKINSON A, WOSSLER TC. Socioeconomic and biophysical determinants of wire-snare poaching incidence and behaviour in the Boland Region of South Africa. *JOURNAL FOR NATURE CONSERVATION* 2019; **52**:Article number 125738, 8 pages.
- NOVOA PEREZ A, BRUNDU G, DAY MD, DELTORO V, ESSL F, FOXCROFT LC, FRIED G, KAPLAN H, KUMSCHICK S, LLOYD S, MARCHANTE H, MARCHANTE H, PATERSON LD, PYCEK P, RICHARDSON DM, WITT A, ZIMMERMANN HG, WILSON JR. Global Actions for Managing Cactus Invasions . *Plants-Basel* 2019; **8**(421):plants8100421, 31 pages.
- NOVOA PEREZ A, FLEPU V, BOATWRIGHT JS. Is spinelessness a stable character in cactus pear cultivars? Implications for invasiveness. *JOURNAL OF ARID ENVIRONMENTS* 2019; **160**:11-16.
- NSIKANI MM, GAERTNER M, KRITZINGER-KLOPPER S, NGUBANE NP, ESLER KJ. Secondary invasion after clearing invasive *Acacia saligna* in the South African fynbos. *South African Journal of Botany* 2019; **125**:280-289.
- NUNES AN, FILL JM, DAVIES SJ, LOUW M, REBELO AD, THORP C, VIMERCATI G, MEASEY GJ. A global meta-analysis of the ecological impacts of alien species on native amphibians. *Proceedings of the Royal Society B: Biological Sciences* 2019; **286**(1897):Article number 20182528.
- O CONNELL CP, ANDREOTTI S, RUTZEN M, MEYER M, MATTHEE CA. The influence of kelp density on white shark presence within the Dyer Island nature reserve, South Africa. *Ocean and Coastal Management* 2019; **179**:Article number 104819, 6 pages.
- OBERHOLSTER PJ, CHENG PH, GENTHE B, STEYN M. The environmental feasibility of low-cost algae-based sewage treatment as a climate change adaption measure in rural areas of SADC countries. *JOURNAL OF APPLIED PHYCOLOGY* 2019; **31**(1):355-363.
- OBERHOLSTER PJ, MADLALA T, BLETTLER MCM, AMSLER ML, EBERLE EG, OBERHOLSTER A. An eutrophication index for lowland sandy rivers in Mediterranean coastal climatic regions of Southern Africa. *River Research and Applications* 2019; **35**(4):414-429.
- OGDEN NL, WILSON JR, RICHARDSON DM, HUI C, DAVIES SJ, KUMSCHICK S, LE ROUX JJ, MEASEY GJ, SAUL W, PULLIAM J. Emerging infectious diseases and biological invasions: A call for a One Health collaboration in science and management. *Royal Society Open Science* 2019; **6**(3):Article number 181577.
- OJEDA F, MIDGLEY JJ, PAUW CA, LAVOLA A, CASIMIRO-SORIGUER R, HATTAS D, SEGARRA-MORAGUES JG, JULKUNEN-TIITTO R. Flower colour divergence is associated with post-fire regeneration dimorphism in the fynbos heath *Erica coccinea* subsp. *coccinea* (Ericaceae). *Evolutionary Ecology* 2019; **33**(3):345-367.
- PADAYACHEE AL, PROCHEŞ S, WILSON JR. Prioritising potential incursions for contingency planning: Pathways, species, and sites in Durban (eThekweni), South Africa as an example. *NeoBiota* 2019; **47**:1-21.
- PATERSON JE, BAXTER-GILBERT JH, BEAUDRY F, CARSTAIRS S, CHOW-FRASER P, EDGE CB, LENTINI AM, LITZGUS JD, MARKLE CE, MCKEOWN K, MOORE JA, REFSNIDER JM, RILEY J, ET AL. Road avoidance and its energetic consequences for reptiles. *Ecology and Evolution* 2019; **9**(17):9794-9803.
- PAUW CA. A Bird's-Eye View of Pollination: Biotic Interactions as Drivers of Adaptation and Community Change. *Annual Review of Ecology, Evolution, and Systematics* 2019; **50**:477-502.
- PEER N, MIRANDA NAF, PERISSINOTTO R. Impact of fiddler crab activity on microphytobenthic communities in a South African mangrove forest. *Estuarine, Coastal and Shelf Science* 2019; **227**:Article number 106332, 8 pages.
- PEER N, RISHWORTH GM, PERISSINOTTO R. Coexistence of Habitat Specialists Under Environmental Change: Investigating Dietary Overlap in Two Brachyuran Species at Peritidal Stromatolite Ecosystems. *Estuaries and Coasts* 2019; **42**(4):1149-1155.
- PETERS K, SINK KJ, ROBINSON T. Aliens cruising in: Explaining alien fouling macro-invertebrate species numbers on recreational yachts. *Ocean and Coastal Management* 2019; **182**:Article number 104986.

PETERS K, SINK KJ, ROBINSON T. Sampling methods and approaches to inform standardized detection of marine alien fouling species on recreational vessels. *Journal of Environmental Management* 2019; **230**:159-167.

PFAFF MC, LOGSTON RC, RAE MAEKERS SJPN, HERMES JC, BLAMEY LK, CAWTHRA HC, COLENBRANDER DR, CRAWFORD RJM, DAY E, DU PLESSIS N, ELWEN SH, FAWCETT S, ROBINSON T, ET AL. A synthesis of three decades of socio-ecological change in False Bay, South Africa: setting the scene for multidisciplinary research and management. *Elementa-Science of the Anthropocene* 2019; **7**:Art 32, 49 pages.

PHAIR NL, TOONEN RJ, KNAPP ISS, VON DER HEYDEN S. Shared genomic outliers across two divergent population clusters of a highly threatened seagrass. *PeerJ* 2019; **7**:e6806, 32 pages.

PIRIE MD, KANDZIORA M, NÜRK NM, LE MAITRE NC, MUGRABI DE KUPPLER AL, GEHRKE B, OLIVER EGH, BELLSTEDT DU. Leaps and bounds: geographical and ecological distance constrained the colonisation of the Afrotropical by *Erica*. *BMC Evolutionary Biology* 2019; **19**:art. no. 222, 12 pages.

PLASMAN M, MCCUE MD, REYNOSO ROSALES VH, TERBLANCHE JS, CLUSELLA-TRULLAS S. Environmental temperature alters the overall digestive energetics and differentially affects dietary protein and lipid use in a lizard. *Journal of Experimental Biology* 2019; **222**(6):Article number jeb194480, 9 pages.

POTGIETER DF, GAERTNER M, O FARRELL PJ, RICHARDSON DM. Does vegetation structure influence criminal activity? Insights from Cape Town, South Africa. *Frontiers of Biogeography* 2019; **11**(1):Article number e42035, 15 pages.

POTGIETER DF, GAERTNER M, O'FARRELL PJ, RICHARDSON DM. A fine-scale assessment of the ecosystem service-disservice dichotomy in the context of urban ecosystems affected by alien plant invasions. *Forest Ecosystems* 2019; **6**(1):Article number 46.

POTGIETER LJ, GAERTNER M, O FARRELL PJ, RICHARDSON DM. Perceptions of impact: Invasive alien plants in the urban environment. *Journal of Environmental Management* 2019; **229**(1):76-87.

PYCEK P, BRUNDU G, BROCK J, CHILD L, WADE M. Twenty-five years of conferences on the Ecology and Management of Alien Plant invasions: the history of EMAPi 1992–2017. *Biological Invasions* 2019; **21**(3):725-742.

RAZANAJATOVO M, VAN KLEUNEN M, KREFT H, DAWSON W, ESSL F, PERGL J, PYSEK P, WINTER M, WEIGELT P. Auto-fertility and self-compatibility moderately benefit island colonization of plants. *Global Ecology and Biogeography* 2019; **28**(3):341-352.

REBELO AD, MEASEY GJ. Locomotor performance constrained by morphology and habitat in a diverse clade of African frogs (Anura: Pyxicephalidae). *Biological Journal of the Linnean Society* 2019; **127**(2):310-323.

REBELO AJ, REBELO AG, REBELO AD, BRONNER GN. Effects of alien pine plantations on small mammal community structure in a southern African biodiversity hotspot. *AFRICAN JOURNAL OF ECOLOGY* 2019; **57**(2):212-225.

ROUX DJ, KINGSFORD RT, COOK C, CARRUTHERS EJ, DICKSON K, HOCKINGS M. The case for embedding researchers in conservation agencies. *Conservation Biology* 2019; **33**(1):1266-1274.

SADCHATHEESWARAN S, MOLONEY C, BRANCH GM, ROBINSON T. Blender interstitial volume: A novel virtual measurement of structural complexity applicable to marine benthic habitats. *MethodsX* 2019; **6**:1728-1740.

SADCHATHEESWARAN S, MOLONEY C, BRANCH GM, ROBINSON T. Using empirical and simulation approaches to quantify merits of rival measures of structural complexity in marine habitats. *MARINE ENVIRONMENTAL RESEARCH* 2019; **149**:157-169.

SAMIE S, TROLLOPE KM, JOUBERT L, MAKUNGA NP, VOLSCHENK H. The antifungal and *Cryptococcus neoformans* virulence attenuating activity of *Pelargonium sidoides* extracts. *Journal of Ethnopharmacology* 2019; **235**:122-132.

SANTANDER C, SANHUEZA M, OLAVE J, BORIE F, VALENTINE AJ, CORNEJO P. Arbuscular Mycorrhizal colonization promotes the tolerance to salt stress in lettuce plants through an Efficient Modification of Ionic balance. *SOIL SCIENCE AND PLANT NUTRITION* 2019; **19**(2):321-331.

SCHOEMAN AL, KRUGER N, SECONDI J, DU PREEZ LH. Repeated reduction in parasite diversity in invasive populations of *Xenopus laevis*: a global experiment in enemy release. *Biological Invasions* 2019; **21**(4):1323-1338.

SEDICK S, SIMON CA. Three new species of Syllis Savigny in Lamarck, 1818 (Annelida: Syllidae) from the south coast of South Africa. *Zootaxa* 2019; **4688**(4):585-598.

SEMWAL P, PAUW CA, PALNI LMS, VERMA S, THAPLIYAL A. Bumblebees (*Bombus rufofasciatus* Smith) pollinate the enclosed inflorescences of the endangered Brahma's lotus (*Saussurea obvallata*: Asteraceae) of the Indian Himalaya. *South African Journal of Botany* 2019; **121**:435-441.

SHACKLETON RT, ADRIAENS T, BRUNDU G, DEHNEN-SCHMUTZ K, ESTÉVEZ RA, FRIED J, LARSON BMH, LIU S, MARCHANTE E, MARCHANTE H, MOSHOBANE MC, NOVOA PEREZ A, REED M, RICHARDSON DM. Stakeholder engagement in the study and management of invasive alien species. *Journal of Environmental Management* 2019; **229**:88-101.

SHACKLETON RT, LARSON BMH, NOVOA A, RICHARDSON DM, KULL CA. The human and social dimensions of invasion science and management. *Journal of Environmental Management* 2019; **229**(1):1-9.

SHACKLETON RT, RICHARDSON DM, SHACKLETON CM, BENNETT B, CROWLEY SL, DEHNEN-SCHMUTZ K, ESTÉVEZ RA, FISCHER A, KUEFFER C, KULL CA, MARCHANTE E, NOVOA A, POTGIETER DF, VAAS J, VAZ AS, LARSON B. Explaining people's perceptions of invasive alien species: A conceptual framework. *Journal of Environmental Management and Tourism* 2019; **229**:10-26.

SHACKLETON RT, SHACKLETON CM, KULL CA. The role of invasive alien species in shaping local livelihoods and human well-being: A review. *Journal of Environmental Management* 2019; **229**(1):145-157.

SILAMBARASAN S, LOGESWARI P, CORNEJO P, ABRAHAM J, VALENTINE AJ. Simultaneous mitigation of aluminum, salinity and drought stress in *Lactuca sativa* growth via formulated plant growth promoting *Rhodotorula mucilaginosa* CAM4. *ECOTOXICOLOGY AND ENVIRONMENTAL SAFETY* 2019; **180**:63-72.

SILAMBARASAN S, LOGESWARI P, VALENTINE AJ, CORNEJO P. Role of *Curtobacterium herbarum* strain CAH5 on aluminum bioaccumulation and enhancement of *Lactuca sativa* growth under aluminum and drought stresses. *ECOTOXICOLOGY AND ENVIRONMENTAL SAFETY* 2019; **183**:Article number 109573, 10 pages.

SIMON CA, BURGHARDT I, TEN HOVE HA, KUPRIYANOVA EK. Not out of Africa: *Spirobranchus kraussii* (Baird, 1865) is not a global fouling and invasive serpulid of Indo-Pacific origin. *Aquatic Invasions* 2019; **14**(2):221-249.

SIMON CA, DU TOIT A, SMITH MKS, CLAASSENS L, SMITH F, SMITH P. Bait Collecting by Subsistence and Recreational Fishers in Knysna Estuary May Impact Management and Conservation. *African Zoology* 2019; **54**(2):91-103.

SIMON CA, SATO-OKOSHI W, ABE H. Hidden diversity within the cosmopolitan species *Pseudopolydora antennata* (Claparède, 1869) (Spionidae: Annelida). *Marine Biodiversity* 2019; **49**(1):25-42.

SIMON CA, WILLIAMS L, HENNINGER T. A new species of *Rhynchospio* (Annelida: Spionidae) in South Africa. *Marine Biodiversity Records* 2019; **49**(2):663-672.

SITAS N, HARMACKOVA ZV, ANTICAMARA JA, ARNETH A, BADOLA R, BIGGS R, BLANCHARD R, HAMANN M, KRUGER RM, O FARRELL PJ, ET AL. Exploring the usefulness of scenario archetypes in science-policy processes: experience across IPBES assessments. *Ecology and Society* 2019; **24**(3):1-26.

SMID J, TOLLEY KA. Calibrating the tree of vipers under the fossilized birth-death model. *Scientific Reports* 2019; **9**(1):Article number 5510, 10 pages.

SOŚNICKA M, GIGLER GM, KINNAIRD JA, PRZYBYLOWICZ WJ, CHIMVINGA J, MASTER S, PLESSEN B. Mineralizing fluids of the supergene-enriched Mashitu South Cu-Co deposit, Katanga Copperbelt, DRC. *Ore Geology Reviews* 2019; **109**:201-228.

SPARWEL M, DORONINA L, CHURAKOV G, STEGEMANN A, BROSIUS J, ROBINSON TJ, SCHMITZ J. The volcano rabbit in the phylogenetic network of lagomorphs. *Genome Biology and Evolution* 2019; **11**(1):11-16.

SPICKETT A, VAN DER MESCHT L, JUNKER K, KRASNOV BR, HAUKISALMI V, MATTHEE S. Beta diversity of gastrointestinal helminths in two closely related South African rodents: species and site contributions. *Parasitology Research* 2019; **118**:2863-2875.

STEVENS GG, PÉREZ-FERNÁNDEZ MA, MORCILLO RJL, KLEINERT A, HILLS PN, BRAND DJ, STEENKAMP ET, VALENTINE AJ. Roots and nodules response differently to P starvation in the mediterranean-type legume *virgilia divaricata*. *Frontiers in Plant Science* 2019; **10**:Article number 73, 14 pages.

SUNDAY J, BENNETT JM, CALOSI P, CLUSELLA-TRULLAS S, GRAVEL S, HARGREAVES AL, LEIVA FP, VERBERK W, OLALLA-TÁRRAGA MA, MORALES-CASTILLA I. Thermal tolerance patterns across

- latitude and elevation. *Philosophical Transactions of the Royal Society of London. Biological Sciences* 2019; **374**(1778):Article number 2019003610 pages.
- SWART C, ROBINSON T. Horizon scanning for alien predatory crabs: insights from South Africa. *African Journal of Marine Science* 2019; **41**(2):125-135.
- TELFORD NS, CHANNING A, MEASEY GJ. Origin of Invasive Populations of the Guttural Toad (*Sclerophrys gutturalis*) on Reunion and Mauritius Islands and in Constantia, South Africa. *Herpetological Conservation and Biology* 2019; **14**(2):380-392.
- TESKE P, SANDOVAL-CASTILLO J, GOLLA TR, EMAMI-KHOYI, A, TINE M, VON DER HEYDEN S, BEHEREGARAY LB. Thermal selection as a driver of marine ecological speciation. *Proceedings of the Royal Society B: Biological Sciences* 2019; **286**(1896):Article number 201820237 pages.
- THERON GL, DE WAAL C, BARRETT SCH, ANDERSON BC. Geographic variation of reproductive traits and competition for pollinators in a bird-pollinated plant. *Ecology and Evolution* 2019; **9**(18):10122-10134.
- THORP C, VONESH J, MEASEY GJ. Cannibalism or congeneric predation? The African clawed frog, *Xenopus laevis* (Daudin), preferentially predaes on larvae of Cape platannas, *Xenopus gilli* Rose & Hewitt. *AFRICAN JOURNAL OF ECOLOGY* 2019; **57**(1):59-65.
- TOLLEY KA, HOPKINS KP, DA SILVA JM. Genetic structure associated with habitat diversification supports the independent evolution of ecomorphs in *Bradypodion pumilum*. *African Journal of Herpetology* 2019; **68**(1):77-89.
- TOLLEY KA, WEEBER J, MARITZ B, VERBURGT L, BATES MF, CONRADIE W, HOFMEYR MD, TURNER AA, DA SILVA J, ALEXANDER G. No safe haven: Protection levels show imperilled South African reptiles not sufficiently safe-guarded despite low average extinction risk. *Biological Conservation* 2019; **233**:61-72.
- TREASURE AM, CHOWN SL. Phenotypic plasticity in locomotor performance of a monophyletic group of weevils accords with the 'warmer is better' hypothesis. *Journal of Experimental Biology* 2019; **222**(9):Article number jeb195255, 9 pages.
- TREASURE AM, LE ROUX PC, MASHAU MH, CHOWN SL. Species-energy relationships of indigenous and invasive species may arise in different ways – a demonstration using springtails. *Scientific Reports* 2019; **9**(1):Article number 13799, 12 pages.
- VALENTINE M, BENADE E, MOUTON M, KHAN W, BOTH A. Binary interactions between the yeast *Candida albicans* and two gut-associated *Bacteroides* species. *MICROBIAL PATHOGENESIS* 2019; **135**:Article number 103619, 13 pages.
- VALENZUELA N, LITERMAN R, NEUWALD JL, MIZOGUCHI B, IVERSON JB, RILEY J, LITZGUS JD. Extreme thermal fluctuations from climate change unexpectedly accelerate demographic collapse of vertebrates with temperature-dependent sex determination. *Scientific Reports* 2019; **9**(1):Article number 4254, 11 pages.
- VAN DER ENT A, MALAISSE F, ERSKINE PD, MESJASZ-PRZYBYLOWICZ J, PRZYBYLOWICZ WJ, BARNABAS AD, SOŚNICKA M, HARRIS HH. Abnormal concentrations of Cu-Co in: *Haumaniastrum katangense*, *Haumaniastrum robertii* and *Aeolanthus biformifolius*: Contamination or hyperaccumulation?. *Metallomics* 2019; **11**(3):586-596.
- VAN DER MESCHT L, KHOKHLOVA IS, SURKOVA EN, WARBURTON EM, KRASNOV BR. Reproductive performance in generalist haematophagous ectoparasites: maternal environment, rearing conditions or both?. *Parasitology Research* 2019; **118**(7):2087-2096.
- VICENTE J, KÜFFER C, RICHARDSON DM, VAZ AS, CABRAL JA, HUI C, ARAÚJO MB, KÜHN I, KULL CA, VERBURG PH, MARCHANTE E, HONRADO J. Different environmental drivers of alien tree invasion affect different life-stages and operate at different spatial scales. *FOREST ECOLOGY AND MANAGEMENT* 2019; **433**:263-275.
- VIMERCATI G, DAVIES SJ, MEASEY GJ. Invasive toads adopt marked capital breeding when introduced to a cooler, more seasonal environment. *Biological Journal of the Linnean Society* 2019; **128**(3):657-671.
- WANG S, HONG Y, MEASEY GJ. An established population of African clawed frogs, *Xenopus laevis* (Daudin, 1802), in mainland China. *BioInvasions Records* 2019; **8**(2):457-464.
- WARRINGTON S, ELLIS AG, NOVOA PEREZ A, WANDRAG EM, HULME PE, DUNCAN RP, VALENTINE AJ, LE ROUX JJ. Cointroductions of Australian acacias and their rhizobial mutualists in the Southern Hemisphere. *Journal of Biogeography* 2019; **46**(7):1519-1531.
- WESSELS C, MATTHEE S, ESPINAZE PARDO MPA, MATTHEE CA. Comparative mtDNA phylogeographic patterns reveal marked differences in population genetic structure between generalist and specialist ectoparasites of the African penguin (*Spheniscus demersus*). *Parasitology Research* 2019; **118**(2):667-672.

WESTER P, JOHNSON SD, PAUW CA. Scent chemistry is key in the evolutionary transition between insect and mammal pollination in African pineapple lilies. *New Phytologist* 2019; **222**(3):1624-1637.

WINGFIELD BD, FOURIE A, SIMPSON MC, BUSHULA-NJAH VS, AYLWARD J, BARNES I, COETZEE MPA, DREYER LL, DUONG TA, GEISER DM, ROETS F, STEENKAMP ET, VAN HEERDEN CJ, WINGFIELD MJ. Draft genome sequences of Fusarium xylarioides, Teratosphaeria gauchensis and T. zuluensis and genome annotation for Ceratocystis fimbriata. *IMA Fungus* 2019; **10** : Article number: 13, 10 pages.

WITT ABR, SHACKLETON RT, BEALE T, NUNDA W, VAN WILGEN BW. Distribution of invasive alien Tithonia (Asteraceae) species in eastern and southern Africa and the socio-ecological impacts of T. Diversifolia in Zambia. *Bothalia - African Biodiversity & Conservation* 2019; **49**(1):Article number a2356, 11 pages.

WOOD LE, DE GRAVE S, CUMBERLIDGE N, KENNERLEY A, DANIELS SR. A phylogenetic perspective on biodiversity patterns of Afrotropical freshwater crabs (Crustacea, Decapoda, Potamonautidae). *Aquatic Conservation-Marine and Freshwater Ecosystems* 2019; **29**:2219-2230.

WOOD LE, DE GRAVE S, DANIELS SR. A comparative evolutionary study reveals radically different scales of genetic structuring within two atyid shrimp species (Crustacea: Decapoda: Atyidae). *ZOOLOGICAL JOURNAL OF THE LINNEAN SOCIETY* 2019; **186**:200-212.

WÜEST RO, BOUCHER FC, BOUCHENAK-KHELLADI Y, KARGER DN, LINDER HP. Dissecting biodiversity in a global hotspot: Uneven dynamics of immigration and diversification within the Cape Floristic Region of South Africa. *Journal of Biogeography* 2019; **46**(9):1936-1947.

ZHANG L, AMECA EI, COWLISHAW G, PETTORELLI N, FODEN WB, MACE GM. Global assessment of primate vulnerability to extreme climatic events. *Nature Climate Change* 2019; **9**(7):554-561.

ZONYANE S, CHEN L, XU M, GONG Z, XU S, MAKUNGA NP. Geographic-based metabolomic variation and toxicity analysis of Sutherlandia frutescens L. R.Br. - An emerging medicinal crop in South Africa. *Industrial Crops and Products* 2019; **133**:414-423.

Journal Articles (NON-subsidised)

CANAVAN S, KUMSCHICK S, LE ROUX JJ, RICHARDSON DM, WILSON JR. Does origin determine environmental impacts? Not for bamboos. *plants,people,planet* 2019; **1**:119-128.

GROOM QJ, DESMET P, REYSERHOVE L, ADRIAENS T, OLDONI D, VANDERHOEVEN S, BASKAUF SJ, MCGEOCH MA, WALLS R, WIECZOREK J, WILSON JR, ZERMOGLIO PFF. Improving Darwin Core for research and management of alien species. *Biodiversity Information Science and Standards* 2019; **3**:e38084.

Books

JONES C, VAN DEN HEEVER JA. *The evolution of morality*. AOSIS, Durbanville, South Africa 2019:252 pp.

Research Reports

FODEN WB, MIDGLEY GF, KELLY C, STEVENS N, ROBINSON J. *South African National Biodiversity Assessment 2018 Technical Report Volume 1: Terrestrial Realm*. South African National Biodiversity Institute. 2019: 198 pp.

GERBER M, THIRUPATHI KP, BOTES A, VILJOEN D, CROUCH IJ, MATHABA P, CROUCH EM. *Understanding superficial scald protocols and assess early risk indicators*. 2019: 10 pp.

KELLY C, FODEN WB, MIDGLEY GF, PORTER S, LAMBERTH SJ, VAN DER LINGEN C, ATKINSON LJ, ROBINSON J. *South African National Biodiversity Assessment 2018 Technical Report Volume 4: Marine Realm*. South African National Biodiversity Institute. 2019: 555 pp.

SKOWNO A, POOLE C, RAIMONDO DJ, SINK KJ, VAN DEVENTER H, VAN NIEKERK L, HARRIS L, SMITH-ADAO LB, TOLLEY KA, ZENGEYA T, FODEN WB, MIDGLEY GF, DRIVER A. *National Biodiversity Assessment 2018: The status of South Africa's ecosystems and biodiversity. Synthesis Report. Synthesis Report*. South African National Biodiversity Institute, an entity of the Department of Environment, Forestry and Fisheries, Pretoria. 2019: 215 pp.

Masters completed

BOTHMA JC. *Deciphering the taxonomic status of parasitic sucking lice occurring on the Aethomys and Micaelamys rodent species complex: a comparative phylogenetic and phylogeographic approach*. MSc, 2019. 97 pp. Studieleier: MATTHEE CA. Medestudieleier: MATTHEE S.

SIGNED BY HOD :

.....

NAME :

.....

DATE :

.....

* * * END OF REPORT * * *
