

References

Chapter 1 References

Section 1.1 references

- Abell, R., Thieme, M.L., Revenga, C., Bryer, M., Kottelat, M., Bogutskaya, N., Coad, B., Mandrak, N., Contreras Balderas, S., Bussing, W., Stiassny, M.L.J., Skelton, P., Allen, G.R., Unmack, P., Naseka, A., Ng, R., Sindorf, N., Robertson, J., Armijo, E., Higgins, J.V., Heibel, T.J., Wikramanake, E., Olson, D., Lopez, H.L., Reis, R.E., Lundberg, J.G., Sabaj Perez, M.H. and Petry, P. 2008. Freshwater ecoregions of the world: a new map of biogeographic units for freshwater biodiversity conservation. *BioScience* **58**:403–414.
- Alcamo, J.M., Vörösmarty, C.J., Naiman, R.J., Lettenmaier, D.P. and Pahl-Wostl, C. 2008. A grand challenge for freshwater research: understanding the global water system. *Environmental Research Letters* **3**:010202 <http://iopscience.iop.org/1748-9326/3/1/010202>.
- Allan, J.D., Abell, R., Hogan, Z., Revenga, C., Taylor, B.W., Welcomme, R.L. and Winemiller, K. 2005a. Overfishing of inland waters. *BioScience* **55**:1041–1051.
- Allan, J.D., Palmer, M., and Poff, N.L. 2005b. Climate change and freshwater ecosystems. In: T.E. Lovejoy and L. Hannah (eds.), *Climate Change and Biodiversity*: pp.274–290. Yale University Press, New Haven, CT.
- AmphibiaWeb. 2010. *AmphibiaWeb: Information on Amphibian Biodiversity and Conservation*. <http://amphibiaweb.org/>.
- Arthington, A.H., Bunn, S.E., Poff, N.L. and Naiman, R.J. 2006. The challenge of providing environmental flow rules to sustain river ecosystems. *Ecological Applications* **16**:1311–1318.
- Arthington A.H., Naiman, R.J., McClain, M.E. and Nilsson, C. 2010. Preserving the biodiversity and ecological services of rivers: new challenges and research opportunities. *Freshwater Biology* **55**:1–16.
- Balian, E.V., Lévêque, C., Segers, H. and Martens, K. 2008. The Freshwater Animal Diversity Assessment: an overview of the results. *Hydrobiologia* **595**:627–637.
- Barrett, J.H., Locker, A.M. and Roberts, C.M. 2004. The origins of intensive marine fishing in medieval Europe: the English evidence. *Proceedings of the Royal Society of London B* **271**:2417–2421.
- Benda, L., Poff, N.L., Miller, D., Dunne, T., Reeves, G., Pess, G. and Pollock, M. 2004. The network dynamics hypothesis: how channel networks structure riverine habitat. *BioScience* **54**:413–427.
- Brooks, T.M., Mittermeier, R.A., da Fonseca, G.A.B., Gerlach, J., Hoffmann, M., Lamoreux, J.F., Mittermeier, C.G., Pilgrim J.D. and Rodrigues, A.S.L. 2006. Global biodiversity conservation priorities. *Science* **313**:58–61.
- Bunn, S.E. and Arthington, A.H. 2002. Basic principles and ecological consequences of altered flow regimes for aquatic biodiversity. *Environmental Management* **30**:492–507.
- Butchart, S.H.M., Walpole, M., Collen, B., van Strien A., Scharlemann, J.P.W., Almond, R.A.E., Baillie, J.E.M., Bomhard, B., Brown, B. Bruno, J. *et al.* 2010. Global biodiversity: indicators of recent declines. *Science* **328**:1164–1168.
- Cook, B.D., Bunn, S.E. and Hughes, J.M. 2007. A comparative analysis of population structuring and genetic diversity in sympatric lineages of freshwater shrimp (Atyidae: *Paratya*): concerted or independent responses to hydrographic factors? *Freshwater Biology* **52**:2156–2171.
- Clausnitzer, V., Kalkman, V.J., Ram, M., Collen, B., Baillie, J.E.M., Bedjanič, M., Darwall, W.R.T., Dijkstra, K.-D.B., Dow, R., Hawking, J., Karube, H., Malikova, E., Paulson, D., Schütte, K., Suhling, F., Villanueva, R.J., von Ellenrieder, N. and Wilson, K. 2009. Odonata enter the biodiversity crisis debate: the first global assessment of an insect group. *Biological Conservation* **142**:1864–1869.
- Costanza, R., d'Arge, R., de Groot, R., Farber, S., Grasso, M., Hannon, B., Limburg, K., Naeem, S., O'Neill, R.V., Paruelo, J., Raskin, R.G., Sutton, P. and van den Belt, M. 1997. The value of the world's ecosystem services and natural capital. *Nature* **387**:253–260.
- Cumberlidge, N., Ng, P.K.L., Yeo, D.C.J., Magalhães, C., Campos, M.R., Alvarez, F., Naruse, T., Daniels, S.R., Esser, L.J., Attipoe, F.Y.K., Clotilde-Ba, F.-L., Darwall, W.R.T., Mclvor, A., Baillie, J.E.M., Collen, B. and Ram, M. 2009. Freshwater crabs and the biodiversity crisis: importance, threats, status, and conservation challenges. *Biological Conservation* **142**:1665–1673.
- Deutsch, C.A., Tewksbury, J.J., Huey, R.B., Sheldon, K.S., Ghalambor, C.K., Haak, D.C. and Martin, P.R. 2008. Impacts of climate warming on terrestrial ectotherms across latitude. *Proceedings of the National Academy of Sciences of the United States of America* **105**:6668–6672.
- Dudgeon, D. 2000. Large-scale hydrological changes in tropical Asia: prospects for riverine biodiversity. *BioScience* **50**:793–806.
- Dudgeon, D. 2007. Going with the flow: global warming and the challenge of sustaining river ecosystems in monsoonal Asia. *Water Science and Technology (Water Supply)* **7**:69–80.
- Dudgeon, D., Arthington, A.H., Gessner, M.O., Kawabata, Z., Knowler, D., Lévêque, C., Naiman, R.J., Prieur-Richard, A.-H., Soto, D., Stiassny, M.L.J. and Sullivan, C.A. 2006. Freshwater biodiversity: importance, threats, status and conservation challenges. *Biological Reviews* **81**:163–182.
- Ehrlich, P.R. and Pringle, R.M. 2008. Where does biodiversity go from here? A grim business-as-usual forecast and a hopeful portfolio of partial solutions. *Proceedings of the National Academy of Sciences of the United States of America* **105**(Suppl. 1):11579–11586.

- Fagan, W.F., Unmack, P.J., Burgess, C., and Minckley, W.L. 2002. Rarity, fragmentation, and extinction risk in desert fishes. *Ecology* **83**:3250–3256.
- Fausch K.D., Baxter C.V. and Murakami M. 2010. Multiple stressors in north temperate streams: lessons from linked forest–stream ecosystems in northern Japan. *Freshwater Biology* **55**(Suppl. 1):120–134.
- Gende S.M., Edwards, R.T., Willson, M.F. and Wipfli, M.S. 2002. Pacific salmon in aquatic and terrestrial ecosystems. *BioScience* **52**:917–928.
- Gibbons, J.W., Scott, D.E., Ryan, T., Buhlmann, K., Tuberville, T., Greene, J., Mills, T., Leiden, Y., Poppy, S., Winne, C. and Metts, B. 2000. The global decline of reptiles, déjà vu amphibians. *BioScience* **50**:653–666.
- Gleick, P.H. 1996. Water resources. In: S.H. Schneider (ed.), *Encyclopedia of Climate and Weather*: pp.817–823. Oxford University Press, Oxford.
- Gomi, T., Sidle, R.C. and Richardson, J.S. 2002. Understanding processes and downstream linkages of headwater systems. *BioScience* **52**:905–916.
- Hecky R.E., Muginne R., Ramlal P.S., Talbot M.R. and Kling G.W. 2010. Multiple stressors cause rapid ecosystem change in Lake Victoria. *Freshwater Biology* **55**(Suppl. 1):19–42.
- Heino, J., Virkkala, R. and Toivonen, H. 2009. Climate change and freshwater biodiversity: detected patterns, future trends and adaptations in northern regions. *Biological Reviews* **84**:39–54.
- Hoegh-Guldberg, O., Hughes, L., McIntyre, S., Lindenmayer, D.B., Parmesan, C., Possingham, H.P. and Thomas, C.D. 2008. Assisted colonization and rapid climate change. *Science* **321**:345–346.
- Hoffmann, R.C. 1996. Economic development and aquatic ecosystems in medieval Europe. *American History Review* **101**:631–669.
- Hoffman, R.C. 2005. A brief history of aquatic resource use in medieval Europe. *Helgoland Marine Research* **59**:22–30.
- Humphries, P. and Winemiller, K.O. 2009. Historical impacts on river fauna, shifting baselines and challenges for restoration. *BioScience* **59**:673–684.
- IPCC. 2007. *Climate Change 2007: Synthesis Report*. Intergovernmental Panel on Climate Change, Geneva. http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf
- IUCN. 2010. *IUCN Red List of Threatened Species. Version 2010.4*. www.iucnredlist.org.
- Jackson, R.B., Carpenter, S.R., Dahm, C.N., M. McKnight, D.M., Naiman, R.J., Postel, S.L. and Running, S.W. 2001. Water in a changing world. *Ecological Applications* **11**:1027–1045.
- Jelks, H.L., Walsh, S.J., Burkhead, N.M., Contreras-Balderas, S., Díaz-Pardo, E., Hendrickson, D.A., Lyons, J., Mandrak, N.E., McCormick, F., Nelson, J.S., Platania, S.P., Porter, B.A., Renaud, C.B., Schmitter-Soto, J.J., Taylor, E.B. and Warren, M.L. 2008. Conservation status of imperiled North American freshwater and diadromous fishes. *Fisheries* **33**:372–407.
- King, J. and Brown, C. 2006. Environmental flows: striking the balance between development and resource protection. *Ecology and Society* **11**:26. <http://www.ecologyandsociety.org/vol11/iss2/art26/>
- King J.M. and Brown, C. 2010. Integrated basin flow assessments: concepts and method development in Africa and South-east Asia. *Freshwater Biology* **55**:127–146.
- Kottelat, M. and Freyhof, J. 2007. *Handbook of European Freshwater Fishes*. Kottelat, Cornol and Freyhof, Berlin.
- Lake P.S., Bond, N. and Reich, P. 2007. Linking ecological theory with stream restoration. *Freshwater Biology* **52**:597–615.
- Larigauderie A. and Mooney H.A. 2010. The Intergovernmental science-policy Platform on Biodiversity and Ecosystem Services: moving a step closer to an IPCC-like mechanism for biodiversity. *Current Opinion in Environmental Sustainability* **2**:1–6.
- Lévêque, C., Oberdorff, T., Paugy, D., Stiassny, M.L.J. and Tedesco, P.A. 2008. Global diversity of fish (Pisces) in freshwater In: E.V. Balian, C. Lévêque, H. Segers and K. Martens (eds.), *The freshwater animal diversity assessment*. *Hydrobiologia* **595**:545–567.
- Limburg, K.E. and Waldman, J.B. 2009. Dramatic declines in North Atlantic diadromous fishes. *BioScience* **59**:955–965.
- Loh, J., Green, R.H., Ricketts, T., Lamoreux, J., Jenkins, M., Kapos, V. and Randers, J. 2005. The Living Planet Index: using species population time series to track trends in biodiversity. *Philosophical Transactions of the Royal Society of London Series B: Biological Sciences* **360**:289–295.
- Lundberg, G., Kottelat, M., Smith, G.R., Stiassny, M.L.J. and Gill, A.C. 2000. So many fishes, so little time: an overview of recent ichthyological discovery in continental waters. *Annals of the Missouri Botanical Gardens* **87**:26–62.
- Lytle, D.A. and Poff, N.L. 2004. Adaptation to natural flow regimes. *Trends in Ecology and Evolution* **19**:94–100.
- Mace, G.M., Cramer, W., Diaz, S., Faith, D.P., Larigauderie, A., Le Prestre, P., Palmer, M., Perrings, C., Scholes, R.J., Walpole, M., Walther, B.A., Watson, J.E.M. and Mooney, H.A. 2010. Biodiversity targets after 2010. *Current Opinion in Environmental Sustainability* **2**:3–8.
- Matthews, W J. and Marsh-Matthews, E. 2007. Extirpation of red shiners in direct tributaries of Lake Texoma (Oklahoma-Texas): a cautionary case history from a fragmented river-reservoir system. *Transactions of the American Fisheries Society* **136**:1041–1062.
- Moritz, C. 2002. Strategies to protect biological diversity and the evolutionary processes that sustain it. *Systematic Biology* **51**:238–254.
- Moss, B. 2010. Climate change, nutrient pollution and the bargain of Dr Faustus. *Freshwater Biology* **55**(Suppl. 1):175–187.
- Myers, N., Mittermeier, R.A., Mittermeier, C.G., da Fonseca, G.A.B. and Kent, J. 2000. Biodiversity hotspots for conservation priorities. *Nature* **403**:853–858.

- Naiman, R.J. and Dudgeon, D. 2010. Global alteration of freshwaters and influences on human and environmental well-being. *Ecological Research* **25**:DOI 10.1007/s11284-010-0693-3.
- Naiman, R.J., Bunn, S.E., Nilsson, C., Petts, G.E., Pinay, G. and Thompson, L.C. 2002. Legitimizing fluvial systems as users of water: an overview. *Environmental Management* **30**:455–467.
- Nakano, S. and Murakami, M. 2001. Reciprocal subsidies: dynamic interdependence between terrestrial and aquatic food webs. *Proceedings of the National Academy of Sciences of the United States of America* **98**:166–170.
- Nilsson, C. and Berggren, K. 2000. Alterations of riparian ecosystems caused by river regulation. *BioScience* **50**:783–792.
- Nilsson, C., Reidy, C.A., Dynesius, M. and Revenga, C. 2005. Fragmentation and flow regulation of the world's large river systems. *Science* **308**:405–408.
- Olden J.D. and Naiman R.J. 2010. Incorporating thermal regimes into environmental flow assessments: modifying dam operations to restore freshwater ecosystem integrity. *Freshwater Biology* **55**:86–107.
- Olden, J.D., Hogan, Z.S. and Vander Zanden, M.J. 2007. Small fish, big fish, red fish, blue fish: size-biased extinction risk of the world's freshwater and marine fishes. *Global Ecology and Biogeography* **16**:694–701.
- Ormerod, S.J., Dobson, M., Hildrew, A.G. and Townsend, C.R. 2010. Multiple stressors in freshwater ecosystems. *Freshwater Biology* **55**(Suppl. 1):1–4.
- Palmer, M.A., Reidy Liermann, C.A., Nilsson, C., Flörke, M., Alcamo, J., Lake, P.S. and Bond, N. 2008. Climate change and the world's river basins: anticipating management options. *Frontiers in Ecology and the Environment* **6**:81–89.
- Parmesan, C. 2006. Ecological and evolutionary responses to recent climate change. *Annual Review of Ecology, Evolution, and Systematics* **37**:637–669.
- Poff, N.L., Allan, J.D., Bain, M.B., Karr, J.R., Prestegard, K.L., Richter, B.D., Sparks R.E. and Stromberg, J.C. 1997. The natural flow regime: a paradigm for river conservation and restoration. *BioScience* **47**:769–784.
- Poff, N. L., Angermeier, P.L., Cooper, S.D., Lake, P.S., Fausch, K.D., Winemiller, K.O., Mertes, L.A.K., Oswood, M.W., Reynolds, J. and Rahel, F.J. 2001. Fish diversity in streams and rivers. In: F.S. Chapin III, E. Sala and E. Huner-Sannwald (eds.), *Global Biodiversity in a Changing Environment*: pp.315–349. Springer, New York.
- Poff, N.L., Olden, J.D., Merritt, D.M. and Pepin, D.M. 2007. Homogenization of regional river dynamics by dams and global biodiversity implications. *Proceedings of the National Academy of Science* **104**:5732–5737.
- Poff N.L., Richter B.D., Arthington A.H. Bunn S.E., Naiman R.J., Kendy E., Acreman M., Apse C., Bledsoe B.P., Freeman M., Henriksen, J., Jacobson, R.B., Kennen, J.G., Merritt, D.M., O'Keeffe, J.H., Olden, J.D., Rogers, K., Tharme, R.E. and Warner, A. 2010. The ecological limits of hydrologic alteration (ELOHA): a new framework for developing regional environmental flow standards. *Freshwater Biology* **55**:147–170.
- Pringle, C.M. 2001. Hydrologic connectivity and the management of biological reserves: a global perspective. *Ecological Applications* **11**:981–998.
- Reeves, R.R., Smith, B.D. and Kasuya, T. 2000. *Biology and Conservation of Freshwater Cetaceans in Asia*. Occasional Paper of the IUCN Species Survival Commission No. 23. IUCN, Gland, Switzerland and Cambridge, UK.
- Revenga, C., Campbell, I., Abell, R., de Villiers, P. and Bryer, M. 2005. Prospects for monitoring freshwater ecosystems towards the 2010 targets. *Philosophical Transactions of the Royal Society Series B: Biological Sciences* **360**:397–413.
- Richter B.D. and Thomas G.A. 2007. Restoring environmental flows by modifying dam operations. *Ecology and Society*, **12**:2. <http://www.ecologyandsociety.org/vol12/iss1/art12/>
- Richter B.D., Postel S., Revenga C., Scudder T., Lehner B., Churchill A. and Chow M. 2010. Lost in development's shadow: the downstream human consequences of dams. *Water Alternatives* **3**:14–42.
- Rockström, J., Steffen, W., Noone, K., Persson, Å., Chapin III, F.S., Lambin, E., Lenton, T. M., Scheffer, M., Folke, C., Schellnhuber, H., Nykvist, B., De Wit, C.A., Hughes, T., van der Leeuw, S., Rodhe, H., Sörlin, S., Snyder, P.K., Costanza, R., Svedin, U., Falkenmark, M., Karlberg, L., Corell, R.W., Fabry, V.J., Hansen, J., Walker, B.H., Liverman, D., Richardson, K., Crutzen, C. and Foley, J. 2009a. Planetary boundaries: exploring the safe operating space for humanity. *Ecology and Society* **14**:32. <http://www.ecologyandsociety.org/vol14/iss2/art32/>
- Rockström, J., Steffen, W., Noone, K., Persson, Å., Chapin III, F.S., Lambin, E., Lenton, T.M., Scheffer, M., Folke, C., Schellnhuber, H., Nykvist, B., De Wit, C.A., Hughes, T., van der Leeuw, S., Rodhe, H., Sörlin, S., Snyder, P.K., Costanza, R., Svedin, U., Falkenmark, M., Karlberg, L., Corell, R.W., Fabry, V.J., Hansen, J., Walker, B.H., Liverman, D., Richardson, K., Crutzen, C. and Foley, J. 2009b. A safe operating space for humanity. *Nature* **461**:472–475.
- Semlitsch, R.D., Scott, D.E. and Pechmann, H.K. 1988. Time and size at metamorphosis related to adult fitness in *Ambystoma talpoideum*. *Ecology* **69**(1):184–192
- Stiassny, M.L.J. 1999. The medium is the message: freshwater biodiversity in peril. In J. Cracraft and F.T. Grifo (eds.), *The Living Planet in Crisis: Biodiversity Science and Policy* pp.53–71. Columbia University Press, New York.
- Strayer, D.L. 2006. Challenges for freshwater invertebrate conservation. *Journal of the North American Benthological Society* **25**:271–287.
- Strayer, D.L. 2010. Alien species in fresh waters: ecological effects, interactions with other stressors, and prospects for the future. *Freshwater Biology* **55**(Suppl. 1):152–174.
- Strayer, D.L. and Dudgeon, D. 2010. Freshwater biodiversity conservation: recent progress and future challenges.

- Journal of the North American Benthological Society* **29**:344–358.
- Sverdrup-Jensen, S. 2002. *Fisheries in the Lower Mekong Basin: Status and Perspectives*. MRC Technical Paper No. 6, Mekong River Commission, Phnom Penh.
- Taylor, C.A., Schuster, G.A., Cooper, J.E., DiStefano, R.J., Eversole, A.G., Hamr, P., Hobbs III, H.H., Robison, H.W., Skelton, C.E. and Thoma, R.F. 2007. A reassessment of the conservation status of crayfishes of the United States and Canada after 10+ years of increased awareness. *Fisheries* **32**:372–389.
- Thieme, M. L., Abell, R., Stiassny, M.L.J., Lehner, B., Skelton, P., Teugels, G., Dinerstein, E., Kamden Toham, A., Burgess, B. and Olson, D. 2005. *Freshwater Ecoregions of Africa and Madagascar. A Conservation Assessment*. Island Press, Washington D.C.
- Turvey, S.T., Pitman, R.L., Taylor, B.L., Barlow, J., Akamatsu, T., Barrett, L.A., Zhao, X.J., Reeves, R.R., Stewart, B.S., Wang, K.X., Wei, Z., Zhang, X.F., Pesser, L.T., Richlen, M., Brandon, J.R. and Wang, D. 2007. First human-caused extinction of a cetacean species. *Biology Letters* **3**:537–540.
- Turvey, S.T., Barrett, L.A., Hao, Y., Zhang, L., Zhang, X., Wang, X., Hunag, Y., Zhou, K., Hart, T. and Wang, D. 2010. Rapidly shifting baselines in Yangtze Fishing communities and local memory of extinct species. *Conservation Biology* **24**:778–787.
- Vörösmarty, C. and Sahagian, D. 2000. Anthropogenic disturbance of the terrestrial water cycle. *BioScience* **50**:753–765.
- Ward J.V. 1989. The four dimensional nature of lotic ecosystems. *Journal of the North American Benthological Society* **8**:2–8.
- WHO/UNICEF. 2008. *Progress on Drinking Water and Sanitation: Special Focus on Sanitation*. World Health Organization and United Nations Children's Fund Joint Monitoring Programme for Water Supply and Sanitation, UNICEF, New York and WHO, Geneva. http://www.wssinfo.org/en/40_mdg2008.html
- Wong, C.M., Williams, C.E., Pittock, J., Collier, U., and Schelle, P. 2007. *World's Top 10 Rivers at Risk*. WWF International, Gland.
- Section 1.2 references**
- Amaize, E. 2010. Pollution in the Niger Delta. *Newsletter of Aquaculture Association of Southern Africa* **5**:10 <http://www.aasa-aqua.co.za/>
- Balian, E.V., Segers, H., Lévêque, C. and Martens, K. 2008. The freshwater animal diversity assessment: an overview of the results. *Hydrobiologia* **595**:627–637.
- Balirwa, J.S., Chapman, C.A., Chapman, L.J., Cowx, I.A., Geheb, K., Kaufman, L., Lowe-McConnell, R.H., Seehausen, O., Wanink, J.H., Welcomme, R.L. and Witte, F. 2003. Biodiversity and fishery sustainability in the Lake Victoria basin: an unexpected marriage? *BioScience* **53**(8):703–715.
- Beadle, L.C. 1981. *The inland water of Tropical Africa*. 2nd ed., Longman, Harlow, Essex.
- Begg, G.W. 1988. The Wetlands of Natal (Part 2). The distribution, extent and status of wetlands in the Mfolozi catchment. *Natal Town and Regional Planning Main Studies Report 71*, Pietermaritzburg.
- Benstead, J.P., Stiassny, M.L.J., Loiselle, P.N., Riseng, K.J., Raminosoa, N. 2000. River conservation in Madagascar. In: P.J. Boon et al. (eds.), *Global Perspectives on River Conservation* pp.236–234.
- Biney, C., Amuzu, A.T., Calamari, D., Kaba, N., Mbome, I.L., Naeva, H., Ochumba, P.B.O., Osibanjo, O., Redegonde, V. and Saad, M.A.H. 1992. Review of heavy metals in the African aquatic environment. *CIFA, FAO Fisheries Report*, FAO, Rome, **471**:87–97.
- Canonico, G.C., Arthington, A., McCrary, J.K., and Thieme, M.L. 2005. The effects of introduced tilapias on native biodiversity. *Aquatic Conservation: Marine and Freshwater Ecosystems* **15**:463–483.
- Cohen, A., Bills, R., Cocquyt, C.Z. and Caljon, A.G. 1993. The impact of sediment pollution on biodiversity in Lake Tanganyika. *Conservation Biology* **7**:667–677.
- Coulter, G.W. 1991. *Lake Tanganyika and its Life*. Oxford University Press, Oxford.
- Coynel, A., Seyler, P., Etcheber, H., Meybeck, M. and Orange, D. 2005. Spatial and seasonal dynamics of total suspended sediment and organic carbon species in the Congo River. *Global Biogeochem Cycles* **19**:GB4019
- Craig, J.F. 1992. Human-induced changes in the composition of fish communities in the African Great Lakes. *Reviews in Fish Biology and Fisheries* **2**:93–124.
- Darwall, W.R.T., Tweddle, D., Skelton, P.H. and Smith, K.S. (eds.) 2009. *The Status and distribution of freshwater biodiversity in Southern Africa*. Gland, Switzerland: IUCN and Grahamstown, South Africa: SAIAB.
- Dejoux, C. 1988. *La pollution des eaux continentales africaines. Expérience acquise, situation actuelle et perspectives*. Travaux et Documents, Orsom Éditions, Paris, N° 213.
- Dudgeon, D., Arthington, A.H., Gessner, M.O., Kawabata, Z.-I., Knowler, D.J., Lévêque C., Naiman, R.J., Prieur-Richard, A.-H., Soto, D., Stiassny, M.L.J. and Sullivan, C.A. 2005. Freshwater biodiversity: importance, threats, status and conservation challenges. *Biological Research* **81**:163–182.
- Economic Commission for Africa. 2003. *The Africa Water Vision for 2025: Equitable and Sustainable Use of Water for Socioeconomic Development*. (UN-Water/Africa, Addis Ababa, 2003).
- FAO. 2010. FishStat Plus - Universal software for fishery statistical time series. <http://www.fao.org/fishery/statistics/software/fishstat/en>
- FAO. 2010a. AQUASTAT. <http://www.fao.org/nr/water/aquastat/main/index.stm>
- FAO. 2010b. FAOSTAT. <http://www.fao.org/economic/ess/en/>
- Fryer, G. and Iles, T.D. 1972. *The cichlid fishes of the Great Lakes of Africa: their biology and evolution*. Edinburgh, Tropical Fish Hobbyist Publ., London, Oliver and Boyd, 641 p.

- Fryer, G. 1991. The evolutionary biology of African cichlid fishes. In: Proceedings of the Fifth European Congress "Biology of Cichlids", Belgium, 24-26 January 1990.
- Garcia, N., Cuttelod, A. and Abdul Malak, D. (eds.) 2010. *The Status and Distribution of Freshwater Biodiversity in Northern Africa*. Gland, Switzerland, Cambridge, UK and Malaga, Spain : IUCN.
- Goudswaard, P. C. and Ligtoet, W. 1988. Recent developments in the fishery for haplochromines (Pisces: Cichlidae) and the Nile Perch, *Lates niloticus* (L) (Pisces: Centropomidae) in Lake Victoria. *Fisheries Report* **388**. FAO, Rome.
- Howard, G.W. 1993. *Ecology and biodiversity in the conservation of wetlands in Zambia*. IUCN, Nairobi, Kenya.
- Jackson, P.B.N., Marshall, B.E. and Paugy, D. 1988. Fish communities in man-made lakes: 427-448. In: C. Lévêque, M.N. Bruton and G.W. Ssentongo (eds), 1988. *Biology and Ecology of African Freshwater Fishes*, Orstom, Paris.
- Leprieur, F., Brosse, S., Garcia-Berthou, E., Oberdorff, T., Olden, J.D. and Townsend, C.R. 2009. Scientific uncertainty and the assessment of risks posed by non-native freshwater fishes. *Fish and Fisheries* **10**:88-97.
- Lévêque, C. 1997. *Biodiversity dynamics and conservation. The freshwater fish of tropical Africa*. Cambridge University Press, Cambridge, U.K.
- Lévêque, C. 2001. African Freshwater Fish and Fisheries: a Biological and Cultural Heritage: 11-27. In: P.H. Skelton and G.G. Teugels (eds.), *African Fish and Fisheries: Diversity and Utilisation*, MRAC, Annales Sciences Zoologiques, **288**.
- Lévêque, C., Oberdorff, T., Paugy, D., Stiassny, M.L.J. and Tedesco, P.A. 2008. Global diversity of fish (Pisces) in freshwater. *Hydrobiologia* **595**:545-567.
- Lévêque, C. and Paugy, D. 2006. *Les poissons des eaux continentales africaines. Diversité, écologie et utilisation par l'homme*. IRD Éditions, Paris.
- LVFO (Lake Victoria Fisheries Organization) 2010. LVFO Documents and Publications. http://www.lvfo.org/index.php?option=com_downloads&Itemid=62&func=selectcat&cat=1
- Marshall, B. 1995. Why is *Limnothrissa miodon* such a successful introduced species and is there anywhere else we should put it? In: T.J. Pitcher and P.J.B. Hart (eds.), *The impact of species changes in African Lakes*, pp.527-545. Chapman and Hall, London.
- McAllister, D.E., Criag, J.F., Davidson, N., Delany, S. and Seddon, M. 2001. *Biodiversity impacts of large dams*. Background paper Nr. 1 Prepared for IUCN/UNEP/WCD. IUCN/UNEP.
- McCartney, M.P., Sullivan, C. and Acreman, M.C. 2001. *Ecosystem impacts of large dams*. Background paper Nr. 2 Prepared for IUCN/UNEP/WCD. IUCN/UNEP.
- Moreau, J., Arrignon, J. and Jubb, R.A. 1988. Les introductions d'espèces étrangères dans les eaux continentales africaines. Intérêt et limites: 395-425. In: C. Lévêque, M.N. Bruton and G.W. Ssentongo (eds.), *Biology and Ecology of African Freshwater Fishes*, Orstom, Paris.
- Musa, I.K., Bila, M., Mana, B. and Mahaman, C. 2008. *Saving Lake Chad*. Based on the Proceedings of Sirte Roundtable, Lybia, 17th December 2008. Lake Chad Basin Commission (LCBC) and International Commission of Irrigation and Drainage (ICID).
- Nilsson, C., Reidy, C.A., Dynesius, M. and Revenga, C. 2005. Fragmentation and flow regulation of the world's large river systems. *Science* **308**:405-408.
- Nyenje, P.M., Foppen, J.W., Uhlenbrook, S. Kulabako, R. and Muwanga, A. 2009. Eutrophication and nutrient release in urban areas of sub-saharan Africa – A review. *Science of the Total Environment* **408**:447-455.
- Ofoezie, I.E. 2002. Human health and sustainable water resources development in Nigeria: schistosomiasis in artificial lakes. *Natural Resources Forum* **26**:150-160. doi: 10.1111/1477-8947.00015
- Ogbeide H.E. and Uyigue, E. 2004. Access to safe drinking water and schistosomiasis in Nigeria: survey on Ipogun Community, Ondo State of Nigeria. Submitted to the Society for Water and Public Health Protection (SWAPHEP). 2004. <http://swaphep.virtualactivism.net>
- Olson, D.M. and Dinerstein, E. 1998. The Global 200: A representation approach to conserving the earth's most biologically valuable ecoregions. *Conservation Biology* **12**:502-515.
- Paugy, D. 2010. The Ethiopian subregion fish fauna: an original patchwork with various origins. *Hydrobiologia* **649**:301-315.
- Petr, T. 1986. The Volta river system. In: B.R. Davies and F.D. Walker (eds.), *The ecology of river systems*. Dordrecht, W. Junk Publ.
- Perkins, J.S. and Ramberg, L. (eds.) 2004. Environmental recovery monitoring of Tsetse fly spraying impacts in the Okavango Delta – 2003. Okavango Report Series, No. 3, May 2004. Harry Oppenheimer Okavango Research Centre, University of Botswana.
- Pitcher, T.J. and Hart, P.J.B. 1995. *The impact of species changes in African lakes*. Chapman and Hall, London.
- Postel, S. and Richter, B.D. 2003. *Rivers for life: Managing Water for People and Nature*. Island Press, Washington D.C., U.S.A.
- Richter, B.D., Matthews, R., Harrison, D.L. and Wigington, R. 2003. Ecologically sustainable water management: managing river flows for ecological integrity. *Ecological Applications* **13**:206-224.
- Ryder, R.A. 1978. Fish yield assessment of large lakes and reservoirs – a prelude to management. In: S.A. Gerking (ed.), *Ecology of Freshwater Fish Production*. Blackwell Scientific, Oxford: 402-423.
- Saad, M.A.H., Amuzu, A.T., Biney, C., Calamari, D., Imevbore, A.M., Naeve, H. and Ochumba, P.B.O. 1994. Domestic and industrial organic loads. In: D. Calamari and H. Naeve (eds.), Review of Pollution in the African Aquatic environment, pp.23-32. CIFA Technical Report, **25**, FAO, Rome.

- Samways, M.J. and Taylor, S. 2004. Impacts of invasive alien plants on Red-Listed South African dragonflies (Odonata). *South African Journal of Science* **100**:78–80.
- Showers, K.B. 2009. Congo River's Grand Ingo hydroelectricity scheme: linking environmental history, policy and impact. *Water Hist.* **1**:31–58.
- Skelton, P.H. 1994. Diversity and distribution of freshwater fishes in East and Southern Africa. *Annales Musée Royal de l'Afrique Centrale, Sciences Zoologiques* **275**:95–131.
- Spinney, L. 2010. Dreampond revisited. A once-threatened population of African fish is now providing a view of evolution in action. *Nature* **466**:174–175
- Thiémié, M.L., Abell, R., Stiassny, M.L.J., Skelton, P., Lehner, B., Teugels, G.G., Dinerstein, E., Kamdem Toham, A., Burgess, N. and Olson, D. 2005. *Freshwater Ecoregions of Africa and Madagascar*. Island Press, Washington.
- Tweddle, D, Makwinja, R.D. and Magasa, J.H. 1995. Demersal Fisheries Re-assessment Project. Final Report. *Fisheries Bulletin* **29**. Malawi Fisheries Department, Lilongwe, Malawi.
- United Nations. 2010. Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, *World Population Prospects: The 2008 Revision*, <http://esa.un.org/unpp>, Thursday, September 30, 2010; 11:34:11 AM.
- UNEP. 2004. Odada, E.O., Olago, D., Kulindwa, K.A.A., Bugenyi, F., West, K., Ntiba, M., Wadinga, S. and Karimumuryango, J. East African Rift Valley Lakes, GIWA Regional assessment 47. University of Kalmar, Kalmar, Sweden.
- UN-Water/Africa. 2003. The Africa Water Vision for 2025: Equitable and Sustainable Use of Water for Socioeconomic Development.
- Witte, F., Goldschmidt, T., Wanink, J.H., van Oijen, M., Goudswaard, P.C., Witte-Maas, E. and Bouton, N. 1992. The destruction of an endemic species flock: Quantitative data on the decline of the haplochromine cichlids of Lake Victoria. *Environmental Biology of Fishes* **34**:1–28.
- Witte, F., Wanink, J.H., Kische-Machumu, M., Mkumbo O.C., Goudswaard, P.C. and Seehausen, O. 2007. Differential decline and recovery of haplochromine trophic groups in the Mwanza Gulf of Lake Victoria. *Aquatic Ecosystem Health and Management* **10**(4):416–433.
- World Commission on Dams. 2010. Dams and development: a new framework for decision making. The report of The World Commission on Dams. Earthscan Publications Ltd, London and Sterling, VA, USA.
- Worthington, E.B. and Lowe-McConnell, R.H. 1994. African Lakes Reviewed: creation and Destruction of Biodiversity. *Environmental Conservation* **21**:199–213.
- Adekola, O., Morardet, S., de Groot, R. and Grelot, F. 2008. The economic and livelihood value of provisioning services of the Ga-Mampa wetland, South Africa. *World Water Congress, 2008*. Montpellier.
- Barbier, E.B., Acreman, M. and Knowler, D. 1997. *Economic valuation of wetlands: a guide for policy-makers and planners*. Ramsar Convention Bureau, Gland Switzerland.
- Chippis, S., Hubbard, D., Werlin, K., Haugerud, N., Powell, K., Thompson, J. and Johnson, T., 2006. Association between wetland disturbance and biological attributes in floodplain wetlands. *Wetlands* **26**(2):497–508.
- Emerton, L. 2005. Values and Rewards: counting and capturing ecosystem water services for sustainable development. *IUCN Water, Nature and Economics Technical paper No. 1*. IUCN – The World Conservation Union, Ecosystems and Livelihoods Group, Asia. 93 pp.
- FAO. 2004. FAOSTAT (on-line database). <http://faostat.fao.org> Accessed December 2004.
- Hollis, G.E., Adams, W.M. and Kano, M.A. (eds.), 1993. *The Hadejia-Nguru Wetlands: environment, economy and sustainable development of a Sahelian floodplain wetland*. IUCN, Gland, Switzerland 244 pp.
- International Water Management Institute (IWMI). 2006. *Working Wetlands: A new approach to balancing agricultural development with environmental protection*. Colombo, Sri Lanka: International Water Management Institute (IWMI) 6p. (IWMI Water Policy Briefing 21).
- Junk, W.J., Brown, M., Campbell, I.C., Finlayson, M., Gopal, B., Ramberg, L. and Warner, B.G. 2006. The comparative biodiversity of seven globally important wetlands. *Aquatic Science* **68**:400–414.
- Kansiime, F. and Nalubega, M. 1999. *Wastewater treatment by a natural wetland: the Nakivubo Swamp, Uganda*. A.A. Balkema, Rotterdam.
- Kayranli, B., Scholz, M., Mustafa, A. and Hedmark, Å. 2010. Carbon storage and fluxes with freshwater wetlands: a critical review. *Wetlands* **30**:111–124.
- Keesing, F., Belden, L.K., Daszak, P., Dobson, A., Drew Harvell, C., Holt, R.D., Hudson, P., Jolles, A., Michell, C.E., Myers, S.S., Bogich, T. and Ostfeld, R.S. 2010. Impacts of biodiversity on the emergence and transmission of infectious diseases. *Nature* **468**:647–652.
- Lannas, K. and Turpie, J. 2009. Valuing the provisioning services of wetlands: Contrasting a rural wetland in Lesotho with a peri-urban wetland in South Africa. *Ecology and Society* **14**(2):18.
- Lawton, J.H. 1999. What to conserve – species or ecosystems? In: E. Maltby, M. Holdgate, M.C. Acreman and A. Weir (eds.), *Ecosystem Management: questions for science and society* pp.55–62. University of London, Egham, UK.
- Lloyd, C. in prep. The role of wetlands in the global carbon cycle. Report to Ramsar STRP.
- McCartney, M.P. 2005. *Wetlands: uses, functions, and values*. Water Encyclopedia, John Wiley and Sons.
- McCartney, M.P. and van Koppen, B. 2004. *Wetland contributions to livelihoods in United Republic of*

Section 1.3 references

- Acharya, G., Barbier, E.B. 2000. Valuing groundwater recharge through agricultural production in the Hadejia-Nguru wetlands in Northern Nigeria. *Agricultural Economics*. **22**:247–259.

- Tanzania. Food and Agriculture Organisation of the United Nations (FAO) Netherlands Partnership Programme: Sustainable Development and Management of Wetlands. Rome.
- Millennium Ecosystem Assessment. 2005. *Ecosystems and human well-being: wetlands and water synthesis*. World Resources Institute, Washington, DC.
- Mitsch, W.J. and Gosselink, J.G. 2000. The value of wetlands: importance of scale and landscape setting. *Ecological Economics* **35**(1):25–33.
- Rebelo, L.-M., McCartney, M.P. and Finlayson, C.M. 2009. Wetlands of sub-Saharan Africa: distribution and contribution of agriculture to livelihoods. *Wetlands Ecology and Management* **18**(5):557–572.
- Roggeri, H. 1995. *Tropical freshwater wetlands: a guide to current knowledge and sustainable management*. Kluwer Academic Publishers, Dordrecht.
- SARDC, IUCN and SADC. 1994. *State of the environment in Southern Africa*. Southern African Research and Documentation Centre. Harare, Zimbabwe, The World Conservation Union, Harare, Zimbabwe and Southern African Development Community, Maseru. Lesotho.
- Schuyt, K. 2005. Economic consequences of wetland degradation for local populations in Africa. *Ecological Economics* **53**:177–190.
- Seyam, I.M., Hoekstra, A.Y. and Ngabirano, H.H.G. 2001. *The value of freshwater wetlands in the Zambezi basin*. IHE, Delft, The Netherlands. 22pp.
- Silvertown, J., Dodd, M.E., Gowing, D.J.G. and Mountford, O. 1999. Hydrologically defined niches reveal basis for species richness in plant communities. *Nature* **400**:61–63.
- Terer, T., Ndiritu, G.G. and Gichuki, N.N. 2004. Socio-economic values and traditional strategies of managing wetland resources in Lower Tana River, Kenya. *Hydrobiologia* **527**:3–14.
- Turpie, J., Day, E., Ross-Gillespie, V. and Louw, A. 2010. *Estimation of the Water Quality Amelioration Value of Wetlands: A Study of the Western Cape, South Africa*. Discussion Paper Series, Environment for Development
- UNEP. 2006. *Africa Environment Outlook 2*. United Nations Environment Program, Nairobi, Kenya.
- UNEP. 2010. *Blue Harvest: Inland Fisheries as an Ecosystem Service*. WorldFish Center, Penang, Malaysia.
- Zwarts, L., van Beukering, P. and Kone, B. (eds.), 2005. *The Niger, a lifeline: Effective water management in the Upper Niger Basin*. RIZA, Lelystad/Wetlands International, Sévaré/Institute for Environmental studies (IVM), Amsterdam/A&W ecological consultants, Veenwouden. Mali/the Netherlands.
- S.N., Ndayishinye, J., Nuhu, D., Oduro, D.J., Provedi, S., Ramosa, R.V., Ratsoavina, F., Trevelyan, R., Tumanye, N., Ujoh, V.N., Van De Weil, G., Wagner, T., Waylen, K. and Yonas, M. 2004. Comparative studies on the structure of an upland African stream ecosystem. *Freshwater Forum* **21**:27–47.
- Bogan, A.E. 2008. Global diversity of freshwater mussels (Mollusca, Bivalvia) in freshwater. In: E.V. Balian, C. Lévêque, H. Segers and K. Martens (eds.), *The freshwater animal diversity assessment*. *Hydrobiologia* **595**:139–147.
- Brooks, E.G.E., Allen, D.J. and Darwall, W.R.T. 2011. *The status and distribution of freshwater biodiversity in central Africa*. IUCN: Gland, Switzerland and Cambridge, UK.
- Chambers, P.A., Lacoul, P., Murphy, K.J. and Thomaz, S.M. 2008. Global diversity of aquatic macrophytes in freshwater. In: E.V. Balian, C. Lévêque, H. Segers and K. Martens (eds.), *The freshwater animal diversity assessment*. *Hydrobiologia* **595**:9–29.
- Coates, D. 1995. Inland capture fisheries and enhancement: Status, constraints and prospects for food security. In: *International Conference on Sustainable Contribution of Fisheries to Food Security, Kyoto, Japan, 4–9 December 1995*. KC/FI/95/TECH/3. Government of Japan, Tokyo, Japan and FAO, Rome, Italy.
- Cook, C.D.K. 1996. *Aquatic Plant Book*. SPB Academic Publishing, Amsterdam/New York.
- Cumberlidge, N., Ng, P.K.L., Yeo, D.C.J., Magalhães, C., Campos, M.R., Alvarez, F., Naruse, T., Daniels, S.R., Esser, L.J., Attipoe, F.Y.K., Clotide-Ba, F.-L., Darwall, W., Mclvor, A., Ballie, J.E.M., Collen, B. and Ram, M. 2009. Freshwater crabs and the biodiversity crisis: Importance, threats, status, and conservation challenges. *Biological Conservation* **142**:1665–1673.
- Darwall, W.R.T., Smith, K.G., Lowe, T. and Vié, J.-C. 2005. *The status and distribution of freshwater biodiversity in Eastern Africa*. IUCN: Gland, Switzerland and Cambridge, UK.
- Darwall, W.R.T., Smith, K.G., Tweddle, D. and Skelton, P. 2009. *The status and distribution of freshwater biodiversity in Southern Africa*. Gland, Switzerland: IUCN and Grahamstown, South Africa: SAIAB.
- De Grammont, P.C. and Cuarón, A.D. 2006. An evaluation of threatened species categorization systems used on the American continent. *Conservation Biology* **20**(1):14–27.
- Delgado, C.L., Wada, N., Rosegrant, M.W., Meijer, S. and Ahmed, M. 2003. *Fish to 2020: Supply and demand in changing global markets*. International Food Policy Research Institute and WorldFish Center.
- Dobson, M., Magana, A., Mathooko, J.M. and Ndegwa, F.K. 2002. Detritivores in Kenyan highland streams: more evidence for the paucity of shredders in the tropics? *Freshwater Biology* **47**:909–919.
- Dugan, P., Delaporte, A., Andrew, N., O'Keefe, M. and Welcomme, R. 2010. *Blue Harvest: Inland Fisheries as an Ecosystem Service*. UNEP. The WorldFish Center, Penang, Malaysia.

Chapter 2 References

- Abdallah, A., De Mazancourt, C., Elinge, M.M., Graw, B., Grzesiuk, M., Henson, K., Kamoga, M., Kolodziejka, I., Kristersson, M., Kuria, A., Leonhartsberger, P., Matemba, R.B., Merl, M., Moss, B., Minto, C., Murfitt, E., Musila,

- Eschmeyer, W.N. (ed.). 2010. Catalog of Fishes electronic version (25 October 2010). Available at: <http://research.calacademy.org/ichthyology/catalog/fishcatmain.asp>
- FAO (Food and Agriculture Organization of the United Nations). 2002. *The state of world fisheries and aquaculture 2002*. FAO Fisheries Department, Rome, Italy.
- FAO (Food and Agriculture Organization of the United Nations). 2006. *The state of the world's fisheries and aquaculture*. FAO 2006, Rome, Italy.
- García, N., Cuttelod, A. and Abdul Malak, D. 2010. *The status and distribution of freshwater biodiversity in Northern Africa*. Gland, Switzerland, Cambridge, UK and Malaga, Spain: IUCN.
- Hassler, M. and Swale, B. 2010. Checklist of World Ferns. Available at: <http://homepages.caverock.net.nz/~bj/fern/>
- Howard, J.K. and Cuffey, K.M. 2006. The functional role of native freshwater mussels in the fluvial benthic environment. *Freshwater Biology* **51**:460–474.
- IUCN. 2001. *IUCN Red List Categories and Criteria: Version 3.1*. IUCN Species Survival Commission. IUCN, Gland, Switzerland and Cambridge, UK.
- IUCN. 2003. *Guidelines for Application of IUCN Red List Criteria at Regional Levels: Version 3.0*. IUCN Species Survival Commission. IUCN. Gland, Switzerland and Cambridge, UK.
- Kalkman, V.J., Causnitzer, V., Dijkstra, K.-D.B., Orr, A.G., Paulson, D.R. and van Tol, J. 2008. Global diversity of dragonflies (Odonata) in freshwater. In: E.V. Balian, C. Lévêque, H. Segers and K. Martens (eds.), *The freshwater animal diversity assessment*. *Hydrobiologia* **595**: 545-567.
- Lamoreux, J., Akçakaya, H.R., Bennun, L., Collar, N.J., Boitani, L., Brackett, D., Bräutigam, A., Brooks, T.M., Fonseca, G.A.B., Mittermeier, R.A., Rylands, A.B., Gärdenfors, U., Hilton-Taylor, C., Mace, G., Stein, B.A. and Stuart, S. 2003. Value of the IUCN Red List. *Trends in Ecology & Evolution* **18**:214-215.
- Lehner, B., Verdin, K. and Jarvis, A. 2008. New global hydrography derived from spaceborne elevation data. *Eos, Transactions, AGU* **89**(10):93-94.
- Lévêque, C., Oberdorff, T., Paugy, D., Stiassny, M.L.J. and Tedesco, P.A. 2008. Global diversity of fish (Pisces) in freshwater. In: E.V. Balian, C. Lévêque, H. Segers and K. Martens (eds.), *The freshwater animal diversity assessment*. *Hydrobiologia* **595**: 545-567.
- Lydeard, C., Cowie, R.H., Ponder, W.F., Bogan, A.E., Bouchet, P., Clark, S.A., Cummings, K.S., Frest, T.J., Gargominy, O., Herbert, D.G., Hershler, R., Perez, K.E., Roth, B., Seddon, M., Strong, E.E. and Thompson, F.G. 2004. The Global Decline of Nonmarine Mollusks. *BioScience* **54**(4):321.
- Mace, G.M., Collar, N.J., Gaston, K.J., Hilton-Taylor, C., Akçakaya, H.R., Leader-Williams, N., Milner-Gulland, E.J. and Stuart, S.N. 2008. Quantification of extinction risk: IUCN's system for classifying threatened species. *Conservation Biology* **22**(6):1424-1442
- Rodrigues, A.S.L., Andelman, S.J., Bakarr, M.I., Boitani, L., Brooks, T.M., Cowling, R.M., Fishpool, L.D.C., Fonseca, G.A.B., Gaston, K.J., Hoffmann, M., Long, J.S., Marquet, P.A., Pilgrim, J.D., Pressey, R.L., Schipper, J. et al. 2004. Effectiveness of the global protected area network in representing species diversity. *Nature* **428**:640-643.
- Schorr, M. and Paulson, D. 2010. World Odonata List. University of Puget Sound. Available at: <http://www.pugetsound.edu/academics/academic-resources/slater-museum/biodiversity-resources/dragonflies/world-odonata-list/>
- Smith, K.G., Diop, M.D., Niane, M. and Darwall, W.R.T. 2009. *The status and distribution of freshwater biodiversity in Western Africa*. IUCN: Gland, Switzerland and Cambridge, UK.
- Strayer, D.L., Caraco, N.F., Cole, J.J., Findlay, S. and Pace, M.L. 1999. Transformation of freshwater ecosystems by bivalves. A case study of zebra mussels in the Hudson River. *Bioscience* **49**(1):19-27.
- Strong, E.E., Gargominy, O., Ponder, W.F. and Bouchet, P. 2008. Global diversity of gastropods (Gastropoda; Mollusca) in freshwater. In: E.V. Balian, C. Lévêque, H. Segers and K. Martens (eds.), *The freshwater animal diversity assessment*. *Hydrobiologia* **595**:149-166.
- Trueman, J.W.H. and Rowe, R.J. 2009. Odonata. Dragonflies and Damselflies. Version 16 October 2009. <http://tolweb.org/Odonata/8266/2009.10.16> In: The Tree of Life Web Project, <http://tolweb.org/>
- United States Geological Survey's Center for Earth Resources Observation and Science (USGS EROS) HYDRO1k Elevation Derivative Database. Available at: <http://edc.usgs.gov/products/elevation/gtopo30/hydro/index.html>
- Vaughn, C.C., Gido, K.B. and Spooner, D.E. 2004. Ecosystem processes performed by unionid mussels in stream mesocosms: species roles and effects of abundance. *Hydrobiologia* **527**:35-47.
- Vaughn, C.C., Nichols, S.J. and Spooner, D.E. 2008. Community and foodweb ecology of freshwater mussels. *Journal of the North American Benthological Society* **27**(2):409-423.
- Vié, J.-C., Hilton-Taylor, C. and Stuart, S.N. 2008. *Wildlife in a changing world: An analysis of the 2008 IUCN Red List of Threatened Species*. Gland, Switzerland. IUCN.
- WCSP. 2010. World Checklist of Selected Plants. The Board of Trustees of the Royal Botanic Gardens, Kew. Available at: <http://www.kew.org/wcsp/>
- WorldFish Center. 2005. *Fish and Food Security in Africa*. The WorldFish Center, Penang, Malaysia.
- WorldFish Center. 2008. *Tropical river fisheries valuation: Establishing economic value to guide policy*. The WorldFish Center, Penang, Malaysia.
- Yeo, D.C.J., Ng, P.K.L., Cumberlidge, N., Magalhaes, C., Daniels, S.R. and Campos, M.R. 2008. Global diversity of crabs (Crustacea: Decapoda: Brachyura) in freshwater. *Hydrobiologia* **595**:275-286.

Chapter 3 References



- Abell, R.A., Allan, J.D. and Lehner, B. 2007. Unlocking the potential of protected areas for freshwaters. *Biological Conservation* **134**:48-63.

- Abell, R., Thieme, M.L., Revenga, C., Bryer, M., Kottelat, M., Bogutskaya, N., Coad, B., Mandrak, N., Contreras Balderas, S., Bussing, W., Stiassny, M.L.J., Skelton, P., Allen, G.R., Unmack, P., Naseka, A., Ng, R., Sindorf, N., Robertson, J., Armijo, E., Higgins, J.V., Heibel, T.J., Wikramanayake, E., Olson, D., López, H.L., Reis, R.E., Lundberg, J.G., Sabaj Pérez, M.H. and Petry, P. 2008. Freshwater Ecoregions of the World: A new map of biogeographic units for freshwater biodiversity conservation. *BioScience* **58**(5):403–414.
- Agnese, J.F. and Teugels, G.G. 2001. The Bathyclarias-Clarias species flock. A new model to understand rapid speciation in African Great lakes. *Comptes Rendus de l'Academie des Sciences Serie III Sciences de la Vie* **324**(8):683–688.
- Allan, J.D. Abell, R., Hogan, Z., Revenga, C., Taylor, B.W. and Welcomme, R. 2005. Overfishing of Inland Waters. *BioScience* **55**(12):1041–1051.
- Allan, D., Esselman, P., Abell, R., McIntyre, P., Tubbs, N., Biggs, H., Castello, L., Jenkins, A. and Kingsford, R. 2010. Protected Areas for Freshwater ecosystems: essential but underrepresented. In: R.A. Mittermeier, T.A. Farrell, I.J. Harrison, A.J. Upgren and T.M. Brooks (eds.), *Fresh water: the essence of life*, pp.155-178. CEMEX and ILCP, Arlington, Virginia, USA.
- Balian, E.V., Segers, H., Lévêque, C. and Martens, K. 2008b. The Freshwater Animal Diversity Assessment: an overview of the results. *Hydrobiologia*, **595**:627–637.
- Banister, K.E. 1973. A revision of the large *Barbus* (Pisces, Cyprinidae) of East and Central Africa. *Bulletin of the British Museum, natural History (Zoology)* **26**:1–148.
- Blanc, M. 1954. La repartition des poissons d'eau douce africains. *Bulletin IFAN (A)* **16**(2):599–628.
- Boden, G., Musschoot, T. and Snoeks, J. 2004. African fish biodiversity, fishbase and fish culture. *Tropicultura* **22** (special edition):37–43.
- Boulenger, G.A. 1905. The distribution of African fresh water fishes. *Rep. Meet. Br. Assoc. Adv. Sci. (S. Afr.)* **75**:412–432.
- Boulenger, G.A. 1909. *Catalogue of the fresh-water fishes of Africa in the British Museum (Natural History)*. Volume 1. i-xi + 1–373. British Museum (Natural History), London.
- Boulenger, G.A. 1911. *Catalogue of the fresh-water fishes of Africa in the British Museum (Natural History)*. Volume 2. i-xii + 1–529. British Museum (Natural History), London.
- Boulenger, G.A. 1915. *Catalogue of the fresh-water fishes of Africa in the British Museum (Natural History)*. Volume 3. i-xii + 1–526. British Museum (Natural History), London.
- Boulenger, G.A. 1916. *Catalogue of the fresh-water fishes of Africa in the British Museum (Natural History)*. Volume 4. i-xxvii + 1–392. [Addenda for vols. 1–4 on pp.149–336; index for vols. 1–4 is pp. 337-392.] British Museum (Natural History), London.
- Bradshaw, C.J.A., Sodhi, N.S., Peh, K.S.-H. and Brook, B.W. 2007. Global evidence that deforestation amplifies flood risk and severity in the developing World. *Global Change Biology* **13**:2379–2395.
- Brooks, E.G.E., Allen, D.J. and Darwall, W.R.T. (compilers). 2011. *The Status and Distribution of Freshwater Biodiversity in Central Africa*. Gland, Switzerland and Cambridge, UK: IUCN. x+126pp.
- Brummett, R., Tanania, C., Pandi, A., Ladel, J., Munzimi, Y., Russell, A., Stiassny, M., Thieme, M., White, S. and Davies, D. 2009. Water resources, forests and ecosystem goods and services. In: C. De Wasseige, D. Devers, P. de Marcken, R. Eba'a Atyi, R. Nasi and P. Mayaux, *The forests of the Congo Basin: State of the forest 2008*, pp.1411–157. Publications Office of the European Union, Luxembourg.
- Brummett, R.E., Stiassny, M.L.J., and Harrison, I.J. 2011. Background. In: E.G.E. Brooks, D.J. Allen and W.R.T. Darwall, (eds.), *The Status and Distribution of freshwater biodiversity in Central Africa*. Gland, Switzerland and Cambridge, UK: IUCN. x+126pp.
- Chenje, M. and Mohamed-Katerere, J. 2006. Invasive Alien Species. In: *Africa Environment Outlook 2: Our Environment, Our Wealth*. UNEP, pp.331–349. http://www.unep.org/dewa/africa/docs/en/AEO2_Our_Environment_Our_Wealth.pdf
- Cohen, A., Kaufman, L.S. and Ogutu-Ohwayo, R. 1996. Anthropogenic threats, impacts, and conservation strategies in the African Great Lakes: A review. In: T.C. Johnson and E.O. Odada (eds.), *The limnology, climatology, and paleoclimatology of the East African lakes*, pp.575–624. Gordon and Breach Publishers, The Netherlands.
- Cross, K. 2009. Case study 1. Pangani. In: A. Forslund, B.M. Renofalt, S. Barchiesi, K. Cross, S. Davison, T. Farrell, L. Korsgaard, K. Krchnak, M. McClain, K. Meijer, and M. Smith (eds.), *Securing water for ecosystems and human-well-being. The Importance of Environmental flows*, pp.15-16. Swedish Water House Report 24. SIWI.
- Coulter, G.W. 1991. *Lake Tanganyika and its life*. Oxford, UK: Oxford Univ. Press.
- Daget, J., Gosse, J.-P. and Thys van den Audenaerde, D.F.E. (eds.) 1984. *Check-list of the freshwater fishes of Africa*, Vol. 1. ORSTOM-MRAC, Tervuren, Belgium.
- Daget, J., Gosse, J.-P. and Thys van den Audenaerde, D.F.E.(eds.) 1986. *Check-list of the freshwater fishes of Africa*, Vol. 2. ORSTOM-MRAC, Tervuren, Belgium.
- Daget, J., Gosse, J.-P., Teugels, G.G. and Thys van den Audenaerde, D.F.E.(eds.) 1991. *Check-list of the freshwater fishes of Africa*, Vol. 4. ORSTOM-MRAC, Tervuren, Belgium.
- Darwall, W.R.T., Smith, K., Lowe, T. and Vié, J.-C. (eds.) 2005. The Status and Distribution of Freshwater Biodiversity in Eastern Africa. viii, 36. *Occasional Paper of the IUCN Species Survival Commission 31*. IUCN, Gland, Switzerland and Cambridge, UK: IUCN SSC Freshwater Biodiversity Assessment Programme.
- Darwall, W.R.T., Smith, K.G., Tweddle, D. and Skelton, P. (eds.) 2009. *The Status and Distribution of Freshwater Biodiversity in Southern Africa*. Gland, Switzerland and Grahamstown, South Africa: IUCN and SAIAB. <http://data.iucn.org/dbtw-wpd/edocs/2009-003.pdf>

- Delling, B. and Doadrio, I. 2005. Systematics of trouts endemic to Moroccan lakes, with description of a new species (Teleostei: Salmonidae). *Ichthyological Exploration of Freshwaters* **16(1)**:49–64.
- De Vos, L. 1995. A systematic revision of the African Schilbeidae (Teleostei, Siluriformes) *Ann. Mus. R. Afr. Cent. Sci. Zool.* 271:1–449.
- De Vos, L. and Snoeks, J. 1994. The non-cichlid fishes of the Lake Tanganyika basin *Arch. Hydrobiol. Beih. Ergebn. Limnol.* **44**:391–405.
- De Vos, L., Snoeks, J., and Thys van den Audenaerde, D. 1990. The effects of Tilapia introductions in Lake Luhoado, Rwanda. *Environmental Biology of Fishes* **27**:303–308.
- De Vos, L., Seegers, L., Taverne, L. and Thys van den Audenaerde, D. 2001. L'ichthyofaune du bassin de la Malagarasi (système du lac Tanganyika): une synthèse de la connaissance actuelle. *Annales Musée Royal de l'Afrique Centrale, Sciences Zoologiques* **285**:117–152.
- Doadrio, I. 1994. Freshwater fish fauna of North Africa and its biogeography. *Annales de Musée Royal de l'Afrique Centrale Zoologique* **275**:21–34.
- FAO 2010. AQUASTAT. <http://www.fao.org/nr/water/aquastat/main/index.stm>
- Farrell, T. 2010. Conservation International's Freshwater Strategy. In: R.A. Mittermeier, T.A. Farrell, I.J. Harrison, A.J. Upgren and T.M. Brooks (eds.), *Fresh water: the essence of life*, p.247. CEMEX and ILCP, Arlington, Virginia, USA.
- Farrell, T.A., Batker, D., Emerton, L. and Turner, W. 2010. Freshwater ecosystem services: essential for human well-being. In: R.A. Mittermeier, T.A. Farrell, I.J. Harrison, A.J. Upgren and T.M. Brooks (eds.), *Fresh water: the essence of life*, pp.187–209. CEMEX and ILCP, Arlington, Virginia, USA.
- Froese, R. and Pauly, D. (eds.). 2010. FishBase. World Wide Web electronic publication. www.fishbase.org, version (11/2010).
- García, N., Cuttelod, A. and Abdul Malak, D. (eds.) 2010a. The Status and Distribution of Freshwater Biodiversity in Northern Africa. IUCN, Gland, Switzerland, Cambridge, UK, and Malaga. xiii+141pp.
- García, N., Abdul Malak, D. Kraïem, M., Samraoui, B., Azeroual, A., Cuttelod A, Reda Fishar, M., Yahyaoui, A. and Melhaoui, M. 2010b. The status and distribution of freshwater fish. In: N. García, A. Cuttelod and D. Abdul Malak (eds.), *The Status and Distribution of freshwater biodiversity in northern Africa*, pp.13–28. IUCN, Gland, Switzerland, Cambridge, UK, and Malaga, Spain.
- GCCA Forum, 2007. <http://www.gcca.net/gccaforum/index.php?action=printpage;topic=18.0>
- Greenwood, P.H. 1983. The zoogeography of African freshwater fishes: bioaccountancy or biogeography. In: R.W. Sims, J.H. Price and P.E.S. Whalley (eds.), *Evolution, time and space: the emergence of the biosphere*, pp.179–199. Systematic Association Special Volume No. **23**. Academic Press, London and New York.
- Harrison, I.J. and Stiassny, M.L.J. 1999. The quiet crisis: a preliminary listing of the freshwater fishes of the World that are extinct or "missing in action". In: R. MacPhee (ed.), *Extinctions in Near Time: Causes, Contexts, and Consequences*, pp.271–332. Kluwer Academic/Plenum Publishers, New York.
- Helfman, G.S. 2007. *Fish Conservation: The Degradation and Restoration of Biodiversity*, Island Press.
- Helfmann, G.S., Collette, B.B. and Facey, D.E. 1997. *The Diversity of Fishes*. Blackwell Science, Massachusetts, USA.
- Ibala-Zamba, A. 2010. *Faune des poissons des rivières Luki et Léfini (bassin du Congo): diversité et écologie*. Ph.D. thesis, KULeuven, Belgium, 452pp.
- Kamdem Toham, A., D'Amico, J., Olson, D., Blom, A., Trowbridge, L., Burgess, N., Thieme, M., Abell, R., Carroll, R.W., Gartlan, S., Langrand, O., Mikala Mussavu, R., O'Hara, D. and Strand, H. (eds.) 2006. *A vision for biodiversity conservation in Central Africa: biological priorities for conservation in the Guinean-Congolian forest and freshwater region*. World Wildlife Fund, USA.
- Kaufman, L. 1992. Catastrophic change in species-rich freshwater ecosystems. *BioScience* **42(11)**:846–858.
- Kaufman, L. and Ochumba, P. 1993. Evolutionary and conservation biology of cichlid fishes as revealed by faunal remnants in northern Lake Victoria. *Conservation Biology* **7**:719–730.
- Kaufman, L.S., Chapman, L.J., and Chapman, C.A. 1997. Evolution in fast forward: haplochromine fishes of the Lake Victoria region. *Endeavour* **21(1)**:23–30.
- Laleye, P. and Entsua-Mensah, M. 2009. Freshwater fishes of western Africa. In: K.G. Smith, M.D. Diop, M. Niana and W.R.T. Darwall (eds.), *The Status and Distribution of freshwater biodiversity in Western Africa*, pp.20–32. IUCN, Gland, Switzerland and Cambridge, UK.
- Landenbergue, D. and Peck, D. 2010. Some examples of common agreement for conserving the World's wetlands. In: R.A. Mittermeier, T.A. Farrell, I.J. Harrison, A.J. Upgren and T.M. Brooks (eds.), *Fresh water: the essence of life*, pp.231–244. CEMEX and ILCP, Arlington, Virginia, USA.
- Le Cointre, G. and Le Guyader, H. 2001. *La classification phylogénétique du vivant*. Éditions Belin, Paris.
- Lévêque, C. (ed.) 1997. *Biodiversity dynamics and conservation: the freshwater fish of tropical Africa*. ORSTOM, Paris.
- Lévêque, C., Paugy, D. and Teugels, G.G. (eds.) 1990. Faune des poissons d'eaux douces et saumâtres de l'Afrique de l'Ouest. Collection Faune tropicale no. XXVIII. **1**:1–384. MRAC (Tervuren)/ORSTOM (Paris).
- Lévêque, C., Paugy, D. and Teugels, G.G. (eds.) 1992. Faune des poissons d'eaux douces et saumâtres de l'Afrique de l'Ouest. Collection Faune tropicale no. XXVIII. **2**:389–902. MRAC (Tervuren)/ORSTOM (Paris).
- Lévêque, C., Oberdorff, T., Paugy, D., Stiassny, M.L.J. and Tedesco, P.A. 2008. Global diversity of fish (Pisces) in freshwater. *Hydrobiologia* **595**:545–567

- Lowenstein, J.H., Osmundson, T.W., Becker, S., Hanner, R. and Stiassny, M.L.J. 2011. Incorporating DNA barcodes into a multi-year inventory of the fishes of the hyperdiverse Lower Congo River, with a multi-gene performance assessment of the genus *Labeo* as a case study. (in press) *Mitochondrial DNA*.
- Lundberg, J.G., Kottelat, M., Smith, G.R., Stiassny, M.L.J. and Gill, A.C. 2000. So many fishes, so little time: an overview of recent ichthyological discoveries in freshwaters. *Annals of the Missouri Botanical Gardens* **87(1)**:26–62.
- Markert J.A., Schelly R.C. and Stiassny M.L.J. 2010. Genetic isolation and morphological divergence mediated by high-energy rapids in two cichlid genera from the lower Congo rapids. *BMC Evolutionary Biology* **10**:149.
- Matthes, H. 1964. Les poissons du lac Tumba et de la region d'Ikela. *Annls Mus. R. Afr. Cent. (Sér. 8vo) (Zool.)* **126**:206pp.
- Nichols, J.T. 1928. Fishes from the White Nile: collected by the Taylor expedition of 1927. A discussion on the freshwater fish fauna of Africa. *American Museum Novitates* **309**:4pp.
- Oijen, M.J.P. and Witte, F. 1996. Taxonomical and ecological description of a species complex of zooplanktivorous and insectivorous cichlids from Lake Victoria. *Zool. Verh. Leiden* **302**:1–56.
- Paugy, D., Lévêque, C. and Teugels, G.G. (eds.). 2003a. Faune des poissons d'eaux douces et saumâtres de l'Afrique de l'Ouest. Faune et Flore Tropicales; 40: tome 1. The fresh and brackish water fishes of West Africa. Faune et Flore Tropicales; 40. Volume 1. 457p. IRD, MNHN, MRAC, Paris and Tervuren.
- Paugy, D., Lévêque, C. and Teugels, G.G. (eds.), 2003b. Faune des poissons d'eaux douces et saumâtres de l'Afrique de l'Ouest. Faune et Flore Tropicales; 40: tome 2. The fresh and brackish water fishes of West Africa. Faune et Flore Tropicales; 40. Volume 2. 815p. IRD, MNHN, MRAC, Paris and Tervuren.
- Peitersen, K. and Beekman, H. (2006). Chapter 4 Freshwater. In: J.C. Mohamed-Katerere and M. Sabet, (eds.), *Environment Outlook 2. Section 2 Environmental State-And-Trends: 20-Year Retrospective*. UNEP.
- Pellegrin, J. 1911. La distribution des poissons d'eau douce en Afrique. *C.r. hebd. Séanc. Acad. Sci. Paris* **153**:297–299.
- Pellegrin, J. 1921. Les poissons des eaux douces de l'Afrique du Nord française. *Mém. Soc. Sci. Nat. Phys. Maroc* **1(2)**:216pp.
- Pellegrin, J. 1933. Les poissons des eaux douces de Madagascar et des îles voisines. *Mém. Acad. malgache* **14**:224pp.
- Poll, M. 1957. Les genres des poissons d'eau douce de l'Afrique. *Annls. Mus. r. Congo belge (Sér. 8vo) (Zool.)* **54**:191pp.
- Poll, M. 1967. Contribution à la faune ichtyologique de l'Angola. Diamang, Lisbon, Portugal.
- Poll, M. 1974. Nombre et distribution géographique des poissons d'eau douce africains. *Bull. Mus. Natn. Hist. Natr., Paris (Sér. 3)* **150**:113–128.
- Reid, G.M. 1989. *The living waters of Korup rainforest. A hydro biological survey report and recommendations with emphasis on fish and fisheries*. WWF Report Number 3206/A8:1. 72pp.
- Reid, G.M. 1991. Threatened rainforest cichlids of Lower Guinea, West Africa – a case for conservation. In: M.J.H. Nelissen (ed.), Proceedings of the Fifth European Congress "Biology of Cichlids," State University of Antwerp, January, 1990. *Ann. Mus. Roy. L'Afrique Centrale, Tervuren* **263**:109–119.
- Revenga, C. and Kura, Y. 2003. *Status and Trends of Biodiversity of Inland Water Ecosystems*. Secretariat of the Convention on Biological Diversity, Montreal, Technical Series no. **11**.
- Revenga, C., Murray, S., Abramovitz, J. and Hammond, A. 1998. *Watersheds of the World: ecological value and vulnerability*. World Resources Institute and Worldwatch Institute, Washington DC, USA.
- Ribbink, A.J. 2001 *Lake Malawi/Niassa/Nyasa ecogion-based conservation programme: Biophysical reconnaissance*. Harare, Zimbabwe. WWF Southern African Regional Programme Office.
- Roberts, T.R. 1975. Geographical distribution of African freshwater fishes. *Zoological Journal of the Linnean Society* **57**:249–319.
- Roberts, T.R. 1993. Just another dammed river? Negative impacts of Pak Mun on fishes of the Mekong basin. *Natural History Bulletin of the Siam Society* **41**:105–133.
- Schiermeier, Q. 2008. A long dry summer. *Nature* **452**:270–273.
- Seegers, L., De Vos, L. and Okeyo, D.O. 2003. Annotated checklist of the freshwater fishes of Kenya (excluding the lacustrine haplochromines from Lake Victoria). *Journal of East African Natural History* **92**:11–47.
- Seehausen, O. 1996. *Lake Victoria rock cichlids – taxonomy, ecology, and distribution*. Verduyn Cichlids, Germany.
- Seehausen, O. and Witte, F. 1995. Extinction of many, survival of some. *Tropical Fish Hobbyist* **43(7)**:96–105.
- Seehausen, O., van Alphen, J.J.M. and Witte, F. 1997a. Cichlid fish diversity threatened by eutrophication that curbs sexual selection. *Science* **277**:1808–1811.
- Seehausen, O., Witte, F., Katunzi, E.F., Smits, J. and Bouton, N. 1997b. Patterns of the remnant cichlid fauna in southern Lake Victoria. *Conservation Biology* **11**:890–904.
- Skelton, P.H. 1993. A complete guide to the freshwater fishes of southern Africa. Southern Book Publishers, Halfway House, South Africa.
- Skelton, P.H. 1994. Diversity and distribution of freshwater fishes in East and southern Africa. In: G.G. Teugels, J.E. Guégan, and J.J. Albaret (eds.), Biological diversity in African fresh and brackish water fishes, Symposium PARADI. *Annals of the Royal Central African Museum* **275**:95–131.
- Skelton, P.H. 2001 A complete guide to the freshwater fishes of southern Africa, 2nd edition, Struik Publishers, Cape Town, South Africa.
- Smith, K.G., Diop, M.D., Niane, M. and Darwall, W.R.T. (eds.) 2009. *The Status and Distribution of Freshwater*

- Biodiversity in Western Africa*, Gland, Switzerland and Cambridge, UK: IUCN. x+94pp+4pp cover.
- Smith, D.M. 2010. Fresh water for the future: policy to secure an essential service for all. In: R.A. Mittermeier, T.A. Farrell, I.J. Harrison, A.J. Upgren and T.M. Brooks (eds.), *Fresh water: the essence of life*, pp.213–223. CEMEX and ILCP, Arlington, Virginia, USA.
- Snoeks, J. 2000. How well known is the ichthyodiversity of the large East African lakes? In: A. Rossiter and H. Kawanabe (eds.), *Ancient lakes: biodiversity, ecology and evolution. Advances in Ecological Research* **31**:17–38.
- Snoeks, J. (ed.) 2004. The cichlid diversity of Lake Malawi/Nyasa: identification, distribution and taxonomy. Cichlid Press, El Paso, TX, USA.
- Snoeks, J., De Vos, L. and Thys van den Audenaerde, D.F.E. 1997. The ichthyogeography of Lake Kivu. *South African Journal of Science* **93**:579–584.
- Stager, J.C., Day, J.J. and Santini, S. 2004. Comment on “Origin of the Superflock of Cichlid Fishes from Lake Victoria, East Africa.” *Science* **304**:963b.
- Stiassny, M.L.J. 1999. The medium is the message: freshwater biodiversity in peril. In: J. Cracraft and F. Grifo, *The Living Planet in Crisis: Biodiversity Science and Policy*, pp.53–71. Columbia University Press, New York, USA.
- Stiassny, M.L.J. 2002. Conservation of freshwater fish biodiversity: the knowledge impediment. *Verhandlungen der Gesellschaft für Ichthyologie, Band 3*:7–18
- Stiassny, M.L.J. and Hopkins, C.D. 2007 Introduction. In: M.L.J. Stiassny, G.G. Teugels and C.D. Hopkins (eds.), *Poissons d’eaux douces et saumâtres de basse Guinée, ouest de l’Afrique centrale*. Volume 1, pp.31–45. IRD Éditions, Paris.
- Stiassny, M.L.J., Teugels, G.G. and Hopkins, C.D. (eds.). 2007a. *Poissons d’eaux douces et saumâtres de basse Guinée, ouest de l’Afrique centrale. Fresh and brackish water fishes of Lower Guinea, West-Central Africa*. Volume 1. 800pp. IRD Éditions, Paris.
- Stiassny, M.L.J., Teugels, G.G., and Hopkins, C.D. (eds.). 2007b. *Poissons d’eaux douces et saumâtres de basse Guinée, ouest de l’Afrique centrale. Fresh and brackish water fishes of Lower Guinea, West-Central Africa*. Volume 2. 603pp. IRD Éditions, Paris.
- Stiassny, M.L.J., Revenga, C. and Comer, P. 2010. Aquatic ecosystems: diversity and dynamism. In: R.A. Mittermeier, T.A. Farrell, I.J. Harrison, A.J. Upgren and T.M. Brooks (eds.). *Fresh water: the essence of life*, pp.93–117. CEMEX and ILCP, Arlington, Virginia, USA.
- Stiassny, M.L.J., Brummett, R.E., Harrison, I.J., Monsembula, R. and Mamonekene, R. 2011. Status and Distribution of freshwater fishes of Central Africa. In: E.G.E. Brooks, D.J. Allen and W.R.T. Darwall (eds.), *The Status and Distribution of freshwater biodiversity in Central Africa*. Gland, Switzerland and Cambridge, UK: IUCN. x+126pp.
- Teugels, G.G., Reid G. and King, R.P. 1992. Fishes of the Cross River basin: taxonomy, zoogeography, ecology and conservation. *Annales Sciences Zoologiques* **266**.
- Thieme, M.L., Abell, R., Stiassny, M.L.J., Skelton, P., Lehner, B., Teugels, G.G., Dinerstein, E., Kamdem Toham, A., Burgess, N. and Olson, D. 2005. *Freshwater ecoregions of Africa and Madagascar: a conservation assessment*. Island Press, Washington DC, USA.
- Thieme, M. Shapiro, A., Colom, A., Schliewen, U., Sindorf, N. and Kamdem Toham, A. 2008. Inventaire Rapide des Zones Humides Représentatives en République Démocratique du Congo. http://www.ramsar.org/pdf/wurc/wurc_dr-congo_inventaire2008.pdf
- Thieme, M.L., Lehner, B., Abell, R. and Matthews, J. 2010. Exposure of Africa’s freshwater biodiversity to a changing climate. *Conservation Letters* **3**(5):324–331.
- Thys van den Audenaerde, D.F.E. 1966. Les *Tilapia* (Pisces, Cichlidae) du Sud-Cameroun et du Gabon. Étude systématique. *Musée royal de l’Afrique Centrale, Tervuren, Belgique, Annales Série in-8, Sciences zoologiques* **153**:1–98.
- Tweddle, D. 1996. Fish survey of Nkhotakota Wildlife Reserve. *JLB Smith Institute of Ichthyology Investigational Report* **53**:1–79.
- Tweddle, D., Skelton, P.H., van der Waal, B.C.W., Bills, I.R., Chilala, A. and Lekoko, O.T. 2004. *Aquatic biodiversity survey for the “Four Corners” Transboundary Natural Resources Management Area. Final Report – July 2004*. SAIAB Investigational Reports. African Wildlife Foundation. xviii+202pp.
- Tweddle, D., Bills, R., Swartz, E., Coetzer, W., Da Costa, L., Engelbrecht, J., Cambay, J., Marshall, B., Impson, D., Skelton, P.H., Darwall, W.R.T. and Smith, K.S. 2009. The status and distribution of freshwater fishes. In: W.R.T. Darwall, K.G. Smith, D. Tweddle and P. Skelton (eds.), *The Status and Distribution of freshwater biodiversity in Southern Africa*, pp.21–37. IUCN, Gland, Switzerland; and SAIAB, South Africa.
- Verheyen, E., Salzburger, W., Snoeks, J. and Meyer, A. 2003. The origin of the superflock of cichlid fishes from Lake Victoria, East Africa. *Science* **300**:325–329.
- Verheyen, E., Salzburger, W., Snoeks, J. and Meyer, A. 2004. Response to comment on “Origin of the superflock of cichlid fishes from Lake Victoria, East Africa”. *Science* **304**:963c.
- Vörösmarty, C.J., McIntyre, P.B., Gessner, M.O., Dudgeon, D., Prusevich, A., Green, P., Glidden, S., Bunn, S.E., Sullivan, C.A., Reidy Liermann, C. and Davies, P.M. 2010. Global threats to human water security and river biodiversity. *Nature* **467**:553–561.
- Wamuini, S.L. 2010. Ichthyofaune de l’Inkisi (Bas-Congo/RDC): diversité et écologie. Ph.D. thesis, Uliège, Belgium, 351pp.
- Wamuini, S.L., Vreven, E., Vandewalle, P., Mutambue, S. and Snoeks, J. 2008. The ichthyofauna of the Inkisi (Lower Congo Basin). Abstract, 91, PAFFA, Addis Ababa.
- Witte, F., Goldschmidt, Goudswaard, P.C., Ligtoet, W., van Oijen, M.J.P. and Wanick, J.H. 1992a. Species extinction and concomitant ecological changes in Lake Victoria. *Netherlands Journal of Zoology* **42**(2-3):214–232.

- Witte, F., Goldschmidt, T., Wanick, J., van Oijen, M., Goudswaard, K., Witte-Maas, E. and Bouton, N. 1992b. The destruction of an endemic species flock: qualitative data on the decline of the haplochromine cichlids of Lake Victoria. *Environmental Biology of Fishes* **34**:1–28.
- Witte, F., Wanink, J.H., Kische-Machumu, M., Mkumbo, O., Goudswaard, P.C. and Seehausen, O. 2007. Differential decline and recovery of haplochromine trophic groups in the Mwanza Gulf of Lake Victoria. *Aquatic Ecosystem Health and Management* **10**(4):416–433.
- Witte, F., van Oijen, M.J.P. and Sibbing, F.A. 2009. Fish fauna of the Nile. In: H. Dumont (ed.), *The Nile: origin, environments, limnology and human use. Monographiae Biologicae* **89**:647–675. Springer Science + Business Media B.V.
-  **Chapter 3 - spotlight on species - The Congo blind barb: Mbanza Ngungu's albino cave fish**
- Banister, K.E., 1986. Fish of the Zaïre River. In: B.R. Davies and K.F. Walker (eds.), *The ecology of river systems*, pp.215–224. Dr. W. Junk, The Netherlands.
- Boulenger, G.A. 1921. Description d'un poisson aveugle découvert par M. G. Geerts dans la grotte de Thysville (Bas-Congo). *Revue de Zoologie Africaine* **9**(3):252–253.
- Brown, A. and Abell, R. 2005. Ecoregion 80. Thysville Caves. In: Thieme, M.L., Abell, R.A., Stiassny, M.L.J., Skelton, P., Lehner, B., Teugels, G.G., Dinerstein, E., Toham, A.K., Burgess, N. and Olson, D. (eds.), *Freshwater Ecoregions of Africa and Madagascar: A Conservation Assessment*. Island Press, Washington, D.C.
- Duren, A. 1943. La pêche en eau douce au Congo belge. 3. Les poissons d'eau douce les plus connus du Congo belge. *Bulletin Agricole du Congo Belge* **34**(1–2):134–148.
- Frechkop, S. 1941. *Animaux protégés au Congo Belge*. Institut des Parcs Nationaux du Congo Belge, Bruxelles.
- Frechkop, S. 1947. *Animaux protégés au Congo Belge*. Institut des Parcs Nationaux du Congo Belge, Bruxelles.
- Frechkop, S. 1953. *Animaux protégés au Congo Belge*. Institut des Parcs Nationaux du Congo Belge, Bruxelles.
- Gerard, P. 1936. Sur l'existence de vestiges oculaires chez *Caecobarbus geertsii*. *Mémoires du Musée Royal d'histoire Naturelle de Belgique* **2**(3):549–552.
- Heuts, M.J. 1951. Ecology, variation and adaptation of the blind African cave fish *Caecobarbus geertsii* Blgr. *Annales de la société Royal Zoologique de Belgique* **82**(2):155–230.
- Heuts, M.J. and Leleup, N. 1954. La géographie et l'écologie des grottes du Bas-Congo: les habitats de *Caecobarbus geertsii* Blgr. *Annales Musée Royale du Congo Belge, Sciences Zoologiques* **8**(35):1–71.
- Kamdem Toham, A., D'Amico, J., Olson, D., Blom, A., Trowbridge, L., Burgess, N., Thieme, M., Abell, R., Carroll, R.W., Gartlan, S., Langrand, O., Mikala Mussavu, R., O'Hara, D., and Strand, H. (eds.), 2006. *A vision for biodiversity conservation in Central Africa: biological priorities for conservation in the Guinean-Congolian forest and freshwater region*. World Wildlife Fund, USA.
- Kimbemba ma Ibaka, A. 2007. *Approche systémique de la conservation des grottes de Mbanza-Ngungu, contribution à l'étude de la biodiversité cavernicole et proposition de création d'une aire protégée*. Thèse présentée à l'ERAIFT pour l'obtention du grade de Philosophiae Doctor en Aménagement et gestion intégrés des forêts et territoires tropicaux.
- Laman, K. 1962. *The Congo. III*. Almqvist and Wiksells, Studia ethnographica Upsaliensia.
- Leleup, N. 1956. La Faune cavernicole du Congo Belge et Considérations sur les Coléoptères reliques d'Afrique intertropicale. *Annales du Musée Royal du Congo Belge, Sciences Zoologiques* **8**(46):1–171.
- Lévêque, C. and Daget, J. 1984 Cyprinidae. In: J. Daget, J.-P. Gosse and D.F.E. Thys van den Audenaerde (eds.), *Checklist of the freshwater fishes of Africa* (CLOFFA). Vol. 1. pp.217–342. ORSTOM, Paris and MRAC, Tervuren.
- Moelants, T. 2009. *Caecobarbus geertsii*. In: IUCN 2010. IUCN Red List of Threatened Species. Version 2010.3. www.iucnredlist.org. Downloaded on 01 October 2010.
- Petit, G. and Besnard, W. 1937. Sur le comportement en aquarium du *Caecobarbus geertsii* Boulenger. *Bulletin du Muséum National d'Histoire Naturelle, Paris* **(2)9**(1):50–53.
- Poll, M. 1953. Les poissons d'aquarium du Congo belge. *Bulletins de la Société Royale de Zoologie d'Anvers* **2**:1–48.
- Poll, M. 1956. Les poissons du Congo Belge et l'aquariophilie. *Notre Aquarium déc. 1955-janv. 1956*: 12p.
- Proudlove, G.S. and Romero, A. 2001. Threatened fishes of the world: *Caecobarbus geertsii* Boulenger, 1921 (Cyprinidae). *Environmental Biology of Fishes* **62**:238.
- Roberts, T.R. and Stewart, D.J. 1976. An ecological and systematic survey of fishes in the rapids of the lower Zaire or Congo River. *Bulletin of the Museum of Comparative Zoology* **147**(6):239–317.
- Thinès, G. 1953. Recherches expérimentales sur la photosensibilité du poisson aveugle *Caecobarbus geertsii* Blgr. *Annales de la Société Royale Zoologique de Belgique* **84**:231–265.
- White, F. 1986. *La végétation de l'Afrique. Mémoire accompagnant la carte de végétation de l'Afrique*. Unesco/AETFAT/UNSO.Orstom – Unesco.
-  **Chapter 3 - spotlight on species - Tilapia in eastern Africa – a friend and foe**
- Abban E.K., Agyakwa S. and Falk, T.M. 2004. Socio-Economic Importance of Tilapiine Fishes (Teleostei, Cichlidae). In: E.K. Abban, C.M.V. Casal, P. Dugan and T.M. Falk (eds.) *Biodiversity, Management and Utilization of West African Fishes*. WorldFish Center Conference Proceedings, 63p.
- Agnèse, J.F., Adépo-Gourène, B., Owino, J., Pouyau, L. and Aman, R. 1999. Genetic characterization of a pure relict

- population of *Oreochromis esculentus*, an endangered tilapia. *Journal of Fish Biology* **54**:1–5.
- Ashley, G.M., Maitima Mworira, M., Muasya, A.M., Owen, R.B., Driese, S.G., Hover, V.C., Renaut, R.W., Goman, M.F., Mathai, S. and Blatt, S.H. 2004. Sedimentation and recent history of a freshwater wetland in a semi-arid environment: Lobo Swamp, Kenya, East Africa. *Sedimentology* **51**:1301–1321
- Balirwa J.S. 1992. The evolution of the fishery of *Oreochromis niloticus* (Pisces: Cichlidae) in Lake Victoria. *Hydrobiologia* **232**:85–89.
- Baroiller, J.F. and D’Cotta, H. 2001. Environment and sex determination in farmed fish. *Comparative Biochemistry And Physiology* **130(4)**:399–409.
- Getachew T. 1987. A study on an herbivorous fish, *Oreochromis niloticus* L., diet and its quality in two Ethiopian Rift Valley lakes, Awasa and Zwai. *Journal of Fish Biology* **30**:439–449.
- Gréboval, D., Bellemans, M. and Fryd, M. 1994. *Fisheries characteristics of the shared lakes of the East African Rift*. CIFA Technical Paper. No. **24**. Rome, FAO. 1994. 81p.
- Harper, D.M., Mavuti, K.M. and Muchiri, S.M. 1990. Ecology and management of Lake Naivasha, Kenya, in relation to climatic change, alien species’ introductions, and agricultural development. *Environmental Conservation* **17**:328–335.
- Harper, D.M., Brooks Childress, R., Harper, M.M., Boar, R.R., Hickley, P., Mills, S.C., Otieno, N., Drane, T., Vareschi, E., Nasirwa, O., Mwatha, W.E., Darlington, J.P.E.C. and Escuté-Gasulla, X. 2003. Aquatic biodiversity and saline lakes: Lake Bogoria National Reserve, Kenya. *Hydrobiologia* **500**:259–276.
- Khallaf E.A. and Aln-Na-Ei, A.A. 1987. Feeding ecology of *Oreochromis niloticus* (Linnaeus) and *Tilapia zillii* (Gervias) in a Nile canal. *Hydrobiologia* **146**:57–62.
- Lubovich, K. 2009. *Cooperation and Competition: Managing Transboundary Water Resources in the Lake Victoria Region*. Working Paper **5**. US AID, Foundation for Environmental Security and Sustainability.
- LVFO. 2007. *Regional plan of action for the management of fishing capacity in Lake Victoria*.
- Mann, M.J., 1970. A resumé of the evolution of the tilapia fisheries of Lake Victoria up to the year 1960. *Annual Report of the East African Freshwater Fisheries Organisation (1969)*:21–26.
- Marten, G.G. 1979. Impact of fishing on the inshore fishery of Lake Victoria (East Africa). *Journal of the Fisheries Research Board of Canada* **36**:891–900.
- Moriarty D.J.W. 1973. The physiology of digestion of blue-green algae in the cichlid fish, *Tilapia nilotica*. *Journal of Zoology* **171**:25–39.
- Moriarty D.J.W. and Moriarty, C.M. 1973. The assimilation of carbon from phytoplankton by two herbivorous fishes: *Tilapia nilotica* and *Haplochromis nigripinnis*. *Journal of Zoology*, **171**:41–55.
- Mwanja, W. and Kaufman, L. 1995. A note on recent advances in the genetic characterization of tilapia stocks in Lake Victoria region. *African Journal of Tropical Hydrobiology and Fisheries* **6**:51–53.
- Njiru, M., Waithaka, E., Muchiri, M., van Knaap, M. and Cowx, I.G. 2005. Exotic introductions to the fishery of Lake Victoria: what are the management options? *Lakes and Reservoirs: Research and Management* **10**:147–155.
- Njiru M., Nzungi, P., Getabu, A., Wakwabi, E., Othina, A., Jembe, T. and Wekesa, S. 2007. Are fisheries management, measures in Lake Victoria successful? The case of Nile perch and Nile tilapia fishery. *African Journal of Ecology* **45**:315–323.
- Ntiba, M.J., Kudoja, W.M. and Mukasa, C.T. 2001. Management issues in the Lake Victoria watershed. *Lakes and Reservoirs: Research and Management* **10**:211–216.
- Nyingi, D.W. 2007. “Différenciation morphologique et génétique du Tilapia du Nile *Oreochromis niloticus* (Linnaeus, 1758) en Afrique: phylogéographie, hybridations et structures métapopulationnelles.” Thesis, Systèmes Intégrés en Biologie, Agronomie, Géosciences, Hydrosociences, Environnement, University de Montpellier II.
- Nyingi, D.W. and Agnèse, J.-F. 2007. Recent introgressive hybridization revealed by exclusive mtDNA transfer from *Oreochromis leucostictus* (Trewavas, 1933) to *Oreochromis niloticus* (Linnaeus, 1758) in Lake Baringo, Kenya. *Journal of Fish Biology* **70(Supplement A)**:148–154.
- Nyingi, D.W., De Vos, L., Aman, R. and Agnèse, J.-F. 2009. Genetic characterization of an unknown and endangered native population of the Nile tilapia *Oreochromis niloticus* (Linnaeus, 1758) (Cichlidae; Teleostei) in the Lobo swamp (Kenya). *Aquaculture* **297**:57–63.
- Nzioka, B. 2009. *Progress on removal of solid waste, cleaning and tree planting activities*. Ministry of Environment and Mineral Resources. Nairobi Rivers Basin Programme.
- Ogutu-Ohwayo, R. 1990. The decline of the native fishes of lakes Victoria and Kyoga (East Africa) and the impact of introduced species especially the Nile perch *Lates niloticus* and the Nile tilapia *Oreochromis niloticus*. *Environmental Biology Of Fishes* **27**:81–96.
- Owen, R.B., Renaut, R.W., Hover, V.C., Ashley, G.M. and Muasya, A.M. 2004. Swamps, springs, and diatoms: wetlands regions of the semi-arid Bogoria-Baringo Rift, Kenya. *Hydrobiologia* **518**:59–78.
- Rognon, X. and Guyomard, R. 2003. Large extent of mitochondrial DNA transfer from *Oreochromis aureus* to *O. niloticus* in West Africa. *Molecular Ecology* **12**:435–445.
- Tessema M., Muller-Belecke, A. and Horstgen-Schwark, G. 2006. Effects of rearing temperatures on the sex ratios of *Oreochromis niloticus* populations. *Aquaculture* **258(1-4)**:270–277.
- Twongo, T. 1995. Impact of fish species introductions on the tilapias of Lakes Victoria and Kyoga. In: T.J. Pitcher and P.J.B. Hart (eds.), *The impact of species changes in African lakes*. Chapman and Hall Fish and Fisheries Series 18.

Welcomme, R.L. 1988. International introductions of inland aquatic species. *FAO Fisheries Technical Paper*, No.294, 207 p.

Chapter 3 - spotlight on species - Forest remnants in western Africa – vanishing islands of sylvan fishes

- Conway, K.C. and Moritz, T. 2006. *Barboides britzi*, a new species of miniature cyprinid from Benin (Ostariophysi: Cyprinidae), with a neotype designation of *B. gracilis*. *Ichthyological Explorations of Freshwaters* **17**:73–84.
- Montchowui, E., Niyonkuru, C., Ahouansou Montcho, S., Chikou, A. and Lalèyè, P. 2007. L'ichthyofaune de la rivière Hlan au Bénin (Afrique de l'Ouest). *Cybiurn* **31**:163–166.
- Moritz, T. 2009. *Nannocharax signifer*, a new species of fish (Characiformes: Distichodontidae) from the Ouémé River basin, Benin. *Ichthyological Explorations of Freshwaters* **20**:289–294.
- Moritz, T. 2010. Fishes of Iguidi River – a small forest stream in South-East Benin. *Ichthyological Explorations of Freshwaters* **21**:9–26.
- Rödel, M.-O., Brede, C., Schiefenhövel, P., Penner, J., Sinsin, B. and Nago, S.G.A. 2007. The amphibians of the Lokoli Forest, a permanently inundated rainforest in the Dahomey Gap, Benin. *Salamandra* **43**:231–238.
- Ullénbruch, K., Grell, O. and Böhme, W. 2010. Reptiles from southern Benin, West Africa, with the description of a new *Hemidactylus* (Gekkonidae), and a country-wide checklist. *Bonn Zoological Bulletin* **57**:31–54.

Chapter 3 - spotlight on species - References A unique species flock in Lake Tana – the *Labeobarbus* complex

- Ameha, A. 2004. “*The effect of birbira, Milletia ferruginea (Hochst.) Baker on some Barbus spp. (Cyprinidae, Teleostei) in Gumara River (Lake Tana), Ethiopia.*” Unpublished MSc. thesis, Addis Ababa University, Ethiopia.
- Anteneh, W. 2005. “*The spawning migration of Labeobarbus (Cyprinidae: Teleostei) of Lake Tana to Dirma and Megech Rivers, Ethiopia.*” Unpublished MSc thesis, Addis Ababa University, Addis Ababa, Ethiopia.
- Chorowicz, J., Collet, B., Bonavia, F.F., Mohr, P., Parrot, J.F. and Korme, T. 1998. The Tana basin, Ethiopia: intra-plateau uplift, rifting and subsidence. *Technophys* **295**:351–367.
- de Graff, M., Machiels, M.A., Wudneh, T. and Sibbing, F.A. 2004. Declining stocks of Lake Tana's endemic *Barbus* species flock (Pisces: Cyprinidae): natural variation or human impact? *Biological Conservation* **116**:277–287.
- Dejen, E., Vijverberg, E.J.L., Nagelkerke, A.J. and Sibbing, F.A. 2004. Temporal and spatial distribution of microcrustacean zooplankton in relation to turbidity and other environmental factors in a large tropical lake (L. Tana, Ethiopia). *Hydrobiologia* **513**:39–49.
- De Weirtdt, D. and Teugels, G.G., 2007. Genus *Barbus* Cuvier and Cloquet, 1816. In: M.L.J. Stiassny, G.G. Teugels

and C.D. Hopkins, (eds.), *The fresh and brackish water fishes of Lower Guinea, West-Central Africa*. 2:470–511. Collection Faune et flore tropicales 42. IRD, Paris, MNHN, Paris and MRAC, Tervuren.

- Getahun, A. and Dejen, E. (in press). *Guide book for the fishes of Lake Tana. An illustrated guide book*. Addis Ababa, Ethiopia.
- Lamb, H.F., Bates, C.R., Coombes, P.V., Marschall, M.H., Umer, M., Davies, S.J. and Dejen, E. 2007. Late Pleistocene dessication of Lake Tana, source of the Blue Nile. *Quaternary Research* **26**:287–299.
- Mohr, P.A. 1962. *The geology of Ethiopia*, pp.1- 268. Addis Ababa, Ethiopia: University College of Addis Ababa Press.
- Nagelkerke, L.A.J. 1997. “*The Barbs of Lake Tana, Ethiopia: Morphology, Diversity and its implication for taxonomy, trophic resource partitioning and fisheries.*” PhD thesis, Agricultural University, Wageningen, the Netherlands.
- Nagelkerke, L.A.J., and Sibbing, F.A. 1996. Reproductive segregation among the large barbs (*Barbus intermedius* complex) of Lake Tana, Ethiopia. An example of intralacustrine speciation? *Journal of Fish Biology* **49**:1244–1266.
- Rzoska, J. 1976. Lake Tana, headwater of the Blue Nile. In: J. Rzoska (ed.), *The Nile, biology of an ancient river*, pp223–232. Dr Junk Publishers, The Hague.
- Tedla, S. and HaileMeskel, F. 1981. Introduction and transplantation of freshwater fish species in Ethiopia. *Ethiopian Journal of Science* **4(2)**:69–72.
- Teshale, B. 2003. *Influence of sediment on physico-chemical properties of Lake Tana. Workshop “Fish and Fisheries of Lake Tana: Management and Conservation”*. 6-8 October 2003, Bahir Dar, Ethiopia.
- Teshale, B., Lee, R. and Zawdie, G. 2001. Development initiatives and challenges for sustainable resource management and livelihood in the Lake Tana region of Northern Ethiopia. In: A.B. Dixon, A. Hailu and A.P. Wood (eds.), *Proceedings of the Wetland Awareness Creation and Activity Identification Workshop in Amhara National Regional State. January 23rd 2001, Bahir Dar, Ethiopia*, pp.33–43
- Vijverberg, J., Sibbing, F.A. and Eshete Dejen 2009. Lake Tana: Source of the Blue Nile. In: J. Dumont (ed.), *The Nile: origin, environments, limnology and human use*, pp.163–192. Springer Science and Business Media B.V.
- Wudneh, T. 1998. “*Biology and management of fish stock in Bahir Dar Gulf, Lake Tana, Ethiopia.*” PhD Thesis, Agricultural University, Wageningen, the Netherlands.

Chapter 3 - spotlight on species - Cauldrons for fish biodiversity: western Africa's crater lakes

- Abell, R., Thieme, M.L., Revenga, C., Bryer, M., Kottelat, M., Bogutskaya, N., Coad, B., Mandrak, N., Contreras Balderas, S., Bussing, W., Stiassny, M.L.J., Skelton, P., Allen, G.R., Unmack, P., Naseka, A., Ng, R., Sindorf, N., Robertson, J., Armijo, E., Higgins, J.V., Heibel, T.J., Wikramanayake, E., Olson, D., López, H.L., Reis,

- R.E., Lundberg, J.G., Sabaj Pérez, M.H. and Petry, P. 2008. Freshwater Ecoregions of the World: A new map of biogeographic units for freshwater biodiversity conservation. *BioScience* **58(5)**:403–414.
- Decker, R. and Decker, B. 1997. *Volcanoes*, 3rd edition, WH Freeman, New York.
- Elenga, H., Maley, J., Vincens, A. and Farrera, I. 2004. Paleoenvironments, paleoclimates and landscape development in Atlantic equatorial Africa: a review of key sites covering the last 25k years. Chapter 10, Pages 181–197. In: R.W. Batarbee, F. Gasse, and C.E. Strickley (eds.), *Past climate variability through Europe and Africa*. Kluwer Academic Publishers, Dordrecht, The Netherlands.
- Elmer, K.R., Lehtonen, T.K., Kautt, A.F., Harrod, C. and Meyer, A. 2010. Rapid sympatric ecological differentiation of crater lake cichlid fishes within historic times. *BMC Biology* **8**:60.
- Embassy of the Federal Republic of Germany. 2011. The Lake Bosumtwi Project – Binational Co-operation in Scientific Research. Retrieved from: <http://www.ghana.diplo.de/Vertretung/ghana/en/03/Danuor/Bosumtwi.html>
- Hamilton, C.J. 2001. Terrestrial Impact Craters. Retrieved from: <http://www.solarviews.com/eng/tercrate.htm>
- Klett, V. and Meyer, A. 2002. What, if anything, is a Tilapia? Mitochondrial ND2 phylogeny of tilapiines and the evolution of parental care systems in the African cichlid fishes. *Molecular Biology and Evolution* **19(6)**:865–83.
- Kling, G.W., Evans, W.C., Tanyileke, G., Kusakabe, M., Ohba, T., Yoshida, Y. and Hell, J.S. 2005. Degassing Lakes Nyos and Monoun: Defusing certain disaster, *Proceedings of the National Academy of the Sciences* **102(40)**:14185–14190.
- Lebamba, J., Vincens, A. and Maley, J. 2010. Pollen, biomes, forest successions and climate at Lake Barombi Mbo (Cameroon) during the last ca. 33 000 cal yr BP – a numerical approach. *Climate of the Past Discussions* **6**:2703–2740.
- Reid, G.M. 1989. *The living waters of Korup rainforest: a hydrobiological survey report and recommendations with emphasis on fish and fisheries*. World Wide Fund for Nature, Godalming, UK.
- Reid, G.M. 1990a. Threatened rain forest cichlids of Lower Guinea, West Africa – a case for conservation. *Proceedings of the 5th European Workshop on Cichlid Biology, Antwerp, Belgium, 1990*.
- Reid, G.M. 1990b. Threatened fishes of Barombi Mbo: a crater lake in Cameroon. *Journal of Fish Biology* **37(Supplement A)**:209–211.
- Reid, G.M. 1995. Threatened fishes of the world: *Pungu maclareni* (Trewavas, 1962) (Cichlidae). *Environmental Biology of Fishes* **43**:362.
- Reid, G.M. 1996. Ichthyogeography of the Guinea-Congo rain forest, West Africa. *Proceedings of the Royal Society of Edinburgh (Section B) Biological Sciences* **104**: 285–312.
- Salzburger, W. and Meyer, A. 2004. The species flocks of East African cichlid fishes: recent advances in molecular phylogenetics and population genetics. *Naturwissenschaften* **91(6)**:277–290.
- Schliewen, U.K. 1996. Barombi Mbo: summary of the background knowledge of the natural history of the lake and recommendations for conservation. Gesellschaft für Technische Zusammenarbeit, Eschborn, Germany.
- Schliewen, U.K. 2005. Cichlid species flocks in small Cameroonian Lakes. In: M.L. Thieme, R. Abell, M.L.J. Stiassny, P. Skelton, B. Lehner, G.G. Teugels, E. Dinerstein, A. Kamdem Toham, N. Burgess and D. Olson (eds.), *Freshwater Ecoregions of Africa and Madagascar*, essay 3.4, pp.58–60. Island Press, USA.
- Schliewen, U.K. and Klee, B. 2004. Reticulate sympatric speciation in Cameroonian crater lake cichlids. *Frontiers in Zoology* **1**:5 (Published online October, 2004).
- Schliewen, U.K., Tautz, D. and Pääbo, S. 1994. Sympatric speciation suggested by monophyly of crater lake cichlids. *Nature* **368(6472)**:629–632.
- Schliewen, U.K., Rassmann, K., Markmann, M., Markert, J., Kocher, T.D. and Tautz, D. 2001. Genetic and ecological divergence of a monophyletic cichlid species pair under fully sympatric conditions in lake Ejagham, Cameroon. *Molecular Ecology* **10**:1471–1488.
- Seehausen, O. 2006. African cichlid fish: a model system in adaptive radiation research. *Proceedings of the Biological Society* **273(1597)**:1987–1998.
- Sigurösson, H. (ed.) 1999. *Encyclopedia of Volcanoes*. Academic Press.
- Slootweg, R. 1989. Proposed introduction of *Astatoreochromis alluaudi*, an East African mollusc-crushing cichlid as a means of snail control. *Proceedings of the 4th European Workshop on Cichlid Biology, Bielefeld, Germany, 1988*.
- Stiassny, M.L.J. 2002. Conservation of freshwater fish biodiversity: the knowledge impediment. *Verhandlungen der Gessellschaft für Ichthyologie* **3**:7–18.
- Stiassny, M.L.J. and de Pinna, M.C.C. 1994. Basal taxa and the role of cladistic patterns in the evaluation of conservation priorities: a view from freshwater. In: P.L. Forey, C.J. Humphries and R.I. Vane Wright (eds.), *Systematics and conservation evaluation*, pp.235–249 Clarendon, Oxford, UK.
- Stiassny, M.L.J., Schliewen, U.K. and Dominey, W.J. 2002. A new species flock of cichlid fishes from Lake Bermin, Cameroon with a description of eight new species of Tilapia (Labroidei: Cichlidae). *Ichthyological Exploration of Freshwaters* **3**:311–346.
- Stiassny, M.L.J., Teugels, G.G. and Hopkins, C.D. 2007. *The Fresh and Brackish Water Fishes of Lower Guinea, West-Central Africa [Poissons d’eux douces et saumâtres de Basse Guinée l’Afrique Ouest-Centrale]*. Volumes 1 (800pp) and 2 (603pp), IRD Editions, Paris.
- Teugels, G.G., Reid, G.M. and King, R.P. 1992. Fishes of the Cross River Basin (Cameroon-Nigeria) taxonomy, zoogeography, ecology and conservation. *Annales du Musée Royal d’Afrique Centrale (Sciences Zoologiques)* **266**:1–132.

- Thieme, M.L., Abell, R., Stiassny, M.L.J., Skelton, P., Lehner, B., Teugels, G.G., Dinerstein, E., Kamdem Toham, A., Burgess, N., and Olson, D. 2005. *Freshwater ecoregions of Africa and Madagascar: a conservation assessment*. Island Press, Washington DC, USA.
- Todd, M.C., Martins, V., Washington, R., Lizcano, G., Dubovik, O., M'Bainayel, S. and Engelstaedter, S. 2007. Mineral dust emission from the Bodele Depression, Chad during BoDEx. 2005. *Journal of Geophysical Research* **112**, D06207.
- Trewavas, E. 1962. Fishes of the crater lakes of Northwestern Cameroons. *Bonner Zoologische Beiträge* **13**:146–192.
- Trewavas, E., Green J. and Corbet, S.A. 1972. Ecological studies on crater lakes in West Cameroon: fishes of Barombi Mbo. *Proceedings of the Zoological Society of London* **167**:41–95.
- ### Chapter 4 References
- Appleton, C.C., Forbes, A.T. and Demetriades, N.T. 2009. The occurrence, bionomics and potential impacts on the invasive freshwater snail *Tarebia granifera* (Lamarck, 1822) in South Africa. *Zoologische Mededelingen* (Leiden) **83**:525–536.
- Arconada, B. and Ramos, M.A. 2003. The Ibero-Balearic region: one of the areas of highest Hydrobiidae (Gastropoda, Prosobranchia, Risssooidea) diversity in Europe. *Graellsia* **59**(2-3):91–104.
- Araujo, R., Reis, J., Machordom, A., Toledo, C., Madeira, M.J., Gómez, I., Velasco, J.C., Morales, J., Barea, J.M., Ondina, P. and Ayala, I. 2009. The naiades of the Iberian Peninsula. *Iberus* **27**:7–72.
- Baillie, J. and Groombridge, B. (compilers and eds.) 1996. *1996 IUCN Red List of Threatened Animals*. IUCN, Gland, Switzerland and Cambridge, UK.
- Benke, M., Brändle, M., Albrecht, C. and Wilke, T. 2009. Pleistocene phylogeography and phylogenetic concordance in cold-adapted spring snails (*Bythinella* spp.), *Molecular Ecology* **18**:890–903
- Boeters, H.D. 1976. Hydrobiidae Tunisiens. *Archiv für Molluskenkunde* **107**(1/3):89–105.
- Bogan, A.E. 1993 Freshwater bivalve extinctions: search for a cause. *American Zoologist* **33**:599–609.
- Bogan, A.E. 2008. Global diversity of freshwater mussels (Mollusca, Bivalvia) in freshwater *Hydrobiologia* **595**:139–147
- Bogan, A.E. 2010. Mollusca Bivalvia. Freshwater Animal Diversity Assessment Project (FADA). Belgian Biodiversity Platform.
- Bouchet, P. and Rocroi, J.-P. 2005. Classification and nomenclator of gastropod families. *Malacologia* **47**:1–397.
- Brown, D.S. 1994. *Freshwater snails of Africa and their medical importance*. Revised 2nd edition, Taylor and Francis, London.
- Brown, D.S. 1996. *Freshwater snails of Africa and their medical importance*. London, Taylor and Francis. 2nd Edition.
- Connolly, M. 1939. A monographic survey of the South African non-marine Mollusca. *Annals of the South African Museum* **33**:1–660.
- Cummings, K.S. and Graf, D.L. 2009. Mollusca: Bivalvia. In: J.H. Thorp and A.P. Covich (eds.), *Ecology and Classification of North American Freshwater Invertebrates*, 3rd edition, pp.309–384. Academic Press, Elsevier, New York.
- Daget, J. 1998. *Catalogue raisonné des mollusques bivalves d'eau douce Africains*. Paris: Backhuys Publishers, Leiden, and OSTROM.
- Darwall, W., Smith, K., Lowe, T. and Vié, J.-C. 2005. *The Status and Distribution of Freshwater Biodiversity in Eastern Africa*. IUCN SSC Freshwater Biodiversity Assessment Programme. IUCN, Gland, Switzerland and Cambridge, UK.
- Darwall, W., Smith, K., Tweddle, D. and Skelton, P. 2009. *The Status and Distribution of Freshwater Biodiversity in Southern Africa*. Gland, Switzerland: IUCN and Grahamstown, South Africa: SAIAB.
- de Kock, K.N. and Wolmarans, C.T. 2008. Invasive alien freshwater snail species in the Kruger National Park. *Koedoe* **50**:49–53.
- dos Santos, S.B. 2003. Estado atual do conhecimento dos ancilídeos na América do Sul (Mollusca: Gastropoda: Pulmonata: Basommatophora). *Revista de Biologia Tropical* (suppl. **13**):191–224
- Economic Commission for Africa. 2003. Economic Report on Africa 2003. Accelerating the pace of development. Economic Commission for Africa, Addis Ababa, Ethiopia.
- García, N., Cuttelod, A. and Abdul Malak, D. (eds.) (2010). *The Status and Distribution of Freshwater Biodiversity in Northern Africa*. IUCN Gland, Switzerland, Cambridge, UK, and Malaga, Spain.
- Genner, M.J., Todd, J.A., Michel, E., Erpenbeck, D., Piechocki, A. and Pointier J.-P. 2007. Amassing diversity in an ancient lake: evolution of a morphologically diverse parthenogenetic gastropod assemblage in Lake Malawi. *Molecular Ecology* **16**:517–530.
- Genner, M.J., Michel, E., Erpenbeck, D., de Voogd, N., Witte, F. and Pointier, J.-P. 2004. Camouflaged invasion of Lake Malawi by an oriental gastropod. *Molecular Ecology* **13**:2135–2141.
- Germain, L. 1935. Contributions à l'étude de la faune du Mozambique. Voyage de M. P. Lesne (1928–1929). 17e Note — Mollusques terrestres et fluviatiles. *Memórias da Estudos Museu de Zoologia, du Universidade de Coimbra* **80**:1–72
- Ghamizi, M. 1998. *Les Mollusques des eaux continentales du Maroc: Systématique et Bioécologie*. Faculté des Sciences Semlalia Marrakech Université Cadi Ayyad.
- Graf, D.L. 2007. Paelearctic freshwater mussel (Mollusca: Bivalvia: Unionoida) diversity and the Comparative Method as a species concept. *Proceedings of the Academy of Natural Sciences of Philadelphia* **156**:71–88.
- Graf, D.L. and Cummings, K.S. 2007a. Preliminary review of the freshwater mussels (Mollusca: Bivalvia: Unionoida) of

- northern Africa, with an emphasis on the Nile. *Journal of the Egyptian German Society of Zoology* **53D**:89-118.
- Graf, D.L. and Cummings, K.S. 2007b. Review of the systematics and global diversity of freshwater mussel species (Bivalvia: Unionoida). *Journal of Molluscan Studies* **73**:291-314.
- Graf, D., Jørgensen, A., Van Damme, D. and Kristensen, T.K., 2011. The status and distribution of freshwater molluscs (Mollusca). In: E.G.E. Brooks, D.J. Allen and W.R.T. Darwall (compilers), 2010. *The Status and Distribution of Freshwater Biodiversity in Central Africa*. Gland, Switzerland and Cambridge, UK.
- Groombridge, B. and Jenkins, M. 1998. *Freshwater Biodiversity: A Preliminary Global Assessment*. Cambridge, United Nations Environment Programme-World Conservation Monitoring Centre, World Conservation Press.
- Heller, J., Mordan, P., Ben-Ami, F. and Sivan, N. 2005. Conchometrics, systematics and distribution of *Melanopsis* (Mollusca: Gastropoda) in the Levant. *Zoological Journal of the Linnean Society* **144**(2):229-260.
- Herbert, D.G. 1998. Molluscan conservation in South Africa: Diversity, issues and priorities. In: I.J. Killeen, M.B. Seddon and A.M. Holmes (eds.), *Molluscan Conservation: A Strategy for the 21st Century. Journal of Conchology Special Publication 2*, pp.61-76. Dorchester (United Kingdom): Conchological Society of Great Britain and Ireland, Dorset Press.
- Hotez, P.J. and Fenwick, A. 2009. Schistosomiasis in Africa: an emerging tragedy in our new global health decade. *PLoS Neglected Tropical Diseases* **3**:e485.
- IUCN. 2001. IUCN Red List Categories and Criteria: Version 3.1. IUCN Species Survival Commission. IUCN, Gland, Switzerland and Cambridge, UK.
- IUCN. 2010. The Moulouya River Basin Case Study. IUCN Freshwater Biodiversity Unit: Cambridge, UK. http://www.iucn.org/about/work/programmes/species/our_work/about_freshwater/what_we_do_freshwater/pan_africa_freshwater_ba/the_moulouya_river_basin_case_study/
- Karatayev, A.Y., Burlakova L.E., Karatayev, V.A. and Padilla, D.K. 2009. Introduction, distribution, spread and impacts of exotic freshwater gastropods in Texas. *Hydrobiologia* **619**:181-194.
- Köhler, F. and Glaubrecht, M. 2002. Morphology, reproductive biology and molecular genetics of ovoviviparous freshwater gastropods (Cerithioidea, Pachychilidae) from the Philippines, with description of a new genus *Jagora*. *Zoologica Scripta* **32**:35-59.
- Kondo, T. 1984. Hosts of the larvae of *Moncetia lavigeriana* (Bivalvia: Mutelidae) in Lake Tanganyika. *Venus* **43**:347-352.
- Kristensen, T.K. and Brown, D.S. 1999. Control of Intermediate Host Snails for Parasitic Diseases – A Threat to Biodiversity in African Freshwaters? *Malacologia* **41**:379-395.
- Kristensen, T.K., Appleton, C.C., Curtis, B. and Stensgaard, A.-S. 2009a. The status and distribution of freshwater molluscs: In: W.R.T. Darwall, K.G. Smith, D. Tweddle and P. Skelton (eds.), *The Status and Distribution of Freshwater Biodiversity in Southern Africa*, pp.38-47. Gland, Switzerland: IUCN and Grahamstown, South Africa: SAIAB.
- Kristensen, T.K., Stensgaard, A.-S., Seddon, M.B. and Mclvor, A. 2009b. The status and distribution of freshwater molluscs (Mollusca) In: K.G. Smith, M.D. Diop, M. Niane and W.R.T. Darwall (eds.), *The Status and Distribution of Freshwater Biodiversity in Western Africa*, pp.33-40. Gland, Switzerland and Cambridge, UK, IUCN.
- Leloup E. 1953. *Exploration hydrobiologique du Lac Tanganyika (1946-1947). Resultats scientifiques. Gasteropodes*. Bruxelles: Institut Royal des Sciences Naturelles de Belgique.
- Loker, E.S., Moyo, H.G. and Gardner, S.L. 1981. Trematode-gastropod associations in nine non-lacustrine habitats in the Mwanza region of Tanzania. *Parasitology* **83**:381-399.
- Mandahl-Barth, G. 1988. *Studies on African Freshwater Bivalves*. Danish Bilharziasis Laboratory, Charlottenlund, Denmark.
- Mas-Coma, S. 2004. Human fascioliasis. In: J.A. Contruvo, A. Dufour, G. Rees, R. Carr, D.O. Cliver, G.F. Craun, R. Fayer and V.P.J. Gannon (eds.), *Waterborne Zoonoses: Identification, Causes and Control*. World Health Organization (WHO), IWA Publishing, London.
- Mcintyre, P.B., Michel, E., France, K., Rivers, A., Hakizimana, P. and Cohen, A.S. 2005. Individual- and assemblage-level effects of anthropogenic sedimentation on snails in Lake Tanganyika. *Conservation Biology* **19**:171-181.
- Michel, E., Todd, J.A., Cleary, D.F.R., Kingma, I. and Cohen, A.S. 2004. Scales of endemism: Challenges for conservation and incentives for evolutionary studies in Lake Tanganyika's gastropod species flocks. *Journal of Conchology special publication* **3**:155-172.
- Miranda, N.A.F., Perissinotto, R. and Appleton, C.C. 2010. Salinity and temperature tolerance of the invasive freshwater gastropod *Tarebia granifera*. *South African Journal of Science* **106**:55-61.
- Mittermeier, R.A., Myers, N., Thomsen, J.B., da Fonseca, G.A.B. and Olivieri, S. 1998. Biodiversity hotspots and major tropical wilderness areas: approaches to setting conservation priorities. *Conservation Biology* **12**:516-520.
- Pilsbry, H.A., and Bequaert, J. 1927. The Aquatic Molluscs of the Belgian Congo. *Bulletin of the American Museum of Natural History* **53**:69-602.
- Pointier, J.P. 1999. Invading freshwater gastropods: some conflicting aspects for public health. *Malacologia* **41**:403-411.
- Porter, A. 1938. The larval Trematoda found in certain South African Mollusca. *Publications of the South African Institute for Medical Research* **62**:1-492.
- Pyron, M., Beugly, J., Martin, E. and Spielman, M. 2008. Conservation of the Freshwater Gastropods of Indiana: Historic and Current Distributions. *American Malacological Bulletin* **26**(1-2):137-151.

- Samadi, S., David, P. and Jarne, P. 2000. Variation of shell shape in the clonal snail *Melanooides tuberculata* and its consequences for the interpretation of fossil series. *Evolution* **54**:492-502.
- Scholz, H. and Glaubrecht, M. 2004. Evaluating limnic diversity: toward a revision of the unionid bivalve *Coelatura* Conrad, 1853 in the Great Lakes of East Africa and adjacent drainage systems (Mollusca: Bivalvia: Unionidae). *Mitteilungen Museum für Naturkunde Berlin, Zool. Reihe* **80**:89-121.
- Seddon, M. 2000. *Molluscan Biodiversity and Impacts of Large Dams*. In: G. Berkamp, M. McCartney, P. Dugan, J. McNeely and M. Acreman (eds.), *Dams, ecosystem functions and environmental restoration*. Thematic Review II.
- Soliman, M.F.M. 2008. Epidemiological review of human and animal fascioliasis in Egypt. *Journal of Infection in Developing Countries* **2**:182-189.
- Southgate, V.R., Rollinson, D., Tchuem-Tchuente, L.A. and Hagan, P. 2005. Towards control of schistosomiasis in sub-Saharan Africa. *Journal of Helminthology* **79**:181-185.
- Sparks, B. W. and Grove, A. T. 1961. Some Quaternary fossil non-marine mollusca from the central Sahara. *Journal of the Linnean Society London, Zoology* **44(298)**:355-364.
- Strong, E.E., Gargominy, O., Ponder, W.F. and Bouchet, P. 2008. Global diversity of gastropods (Gastropoda; Mollusca) in freshwater. *Hydrobiologia* **595**:149-166.
- Thieme, M.L., Abell, R.A., Stiassny, M.L.J., Skelton, P., Lehner, B., Teugels, G.G., Dinerstein, E., Toham, A. K., Burgess, N. and Olson, D. (eds.), 2005. *Freshwater Ecoregions of Africa and Madagascar: A Conservation Assessment*. Island Press, Washington, D.C.
- Van Bocxlaer, B., Van Damme, D. and Feibel, C.S. 2008. Gradual versus punctuated equilibrium evolution in the Turkana Basin molluscs: Evolutionary events or Biological Invasions? *Evolution* **62(3)**:511-520.
- Van Damme, D. 1984. *The freshwater mollusca of Northern Africa: distribution, biogeography and palaeoecology*. Dr. W. Junk Publishers, Dordrecht / Boston / Lancaster.
- Van Damme, D. and Van Bocxlaer, B. 2009. Freshwater molluscs of the Nile Basin, past and present. In: H. J. Dumont (ed.), *The Nile: Origin, Environments, Limnology and Human Use*, pp.585-629. Springer Science + Business Media B.V.
- Van Damme, D. and Pickford, M. 2003. The late Cenozoic Thiaridae (Mollusca, Gastropoda, Cerithioidea) of the Albertine Rift Valley (Uganda-Congo) and their bearing on the origin and evolution of the Tanganyikan thalassoid malacofauna. *Hydrobiologia* **498**:1-83.
- Van Damme, D., Ghamizi, M., Soliman, G., Mclvor, A. and Seddon, M.B. 2010. The status and distribution of freshwater molluscs. In: N. García, A. Cuttelod and D. Abdul Malak (eds.), *The Status and Distribution of Freshwater Biodiversity in Northern Africa*, pp.30-49. IUCN, Gland, Switzerland, Cambridge, UK, and Malaga.
- Vaught, K.C. 1989. *A Classification of the Living Mollusca*. American Malacologists, Inc., Melbourne, Florida.
- Wächtler, K., Mansur, M.C.D. and Richter, T. 2001. Larval types and early postlarval biology in Naiads (Unionoida). In: G. Bauer and K. Wächtler (eds.), *Ecology and Evolution of the Freshwater Mussels Unionoida*, pp.93-125. Springer-Verlag, Berlin.
- Warui, C.M., Tattersfield, P. and Seddon, M.B. 2001. Annotated checklist of the non-marine molluscs of Mt. Kenya, Kenya. *Journal of Conchology* **37(3)**:291-300.
- West, K., Michel, E., Todd, J., Brown, D. and Clabaugh, J. 2003. *The gastropods of Lake Tanganyika, Diagnostic key, classification, and notes on the fauna*. Centre for African Wetlands, Ghana.
- WHO. 2002. Prevention and Control of Schistosomiasis and Soil-transmitted Helminthiasis. World Health Organisation. *WHO Technical Report Series*, 912, Geneva, 57pp.
- Yousif, F. and Ibrahim, A. 1978. The first record of *Angiostrongylus cantonensis* from Egypt. *Zeitschrift für Parasitenkunde* **56**:73-80.
- Yousif, F. and Lämmli, G. 1975. The suitability of several aquatic snails as intermediate hosts for *Angiostrongylus cantonensis*. *Zeitschrift für Parasitenkunde* **47**:203-210.

Chapter 4 - spotlight on species - openbill storks

- Appleton, C.C. 1985. The Mollusca from Iron Age sites. In: R. Derricourt (ed.), *Man on the Kafue*. Lilian Barber Press, New York, Appendix 8, 216-220.
- Appleton, C.C., Curtis, B.A., Alonso, L.E. and Kipping, J. 2003. Freshwater Invertebrates of the Okavango Delta. In: L.E. Alonso and L.-A. Nordin (eds.), *A Rapid Biological Assessment of the Okavango Delta, Botswana: High Water Survey*. Chapter 4 + Appendices 2,3 & 4. *RAP Bulletin of Biological Assessment*, **27**:58-68, 123-136.
- Appleton, C.C. and la Hausse de Lalouvière, P. 1987. Some population characteristics of the bivalves of the Pongolo River floodplain. *Journal of the Limnological Society of Southern Africa* **13**:14-19.
- Hockey, P.A.R., Dean, W.R.J. and Ryan, P.G. 2006. *Roberts Birds of Southern Africa*. VII edition, John Voelcker Bird Book Fund, Cape Town.
- Huxley, J.S. 1960. The Openbill's open bill: a teleonomic enquiry. *Zoologische Jahrbuecher Abteilung fuer Systematic Oekologie und Geographie der Tiere* **88**:9-30.
- Kahl, M.P. 1971. Food and feeding behavior of Openbill storks. *Journal of Ornithology* **112**:21-35.

Chapter 4 - spotlight on species - African freshwater pearl mussel

- Araujo, R., Reis, J., Machordom, A., Toledo, C., Madeira, M.J., Gómez, I., Velasco, J.C., Morales, J., Barea, J.M., Ondina, P. and Ayala, I. 2009. The naiades of the Iberian Peninsula. *Iberus* **27**:7-72.

Chapter 5 References

- Aistleitner, E., Barkemeyer, W., Lehmann, G. and Martens, A. 2008. A checklist of the Odonata of the Cape Verde Islands. *Mitteilungen des Internationalen Entomologischen Vereins E.V. Frankfurt A.M.* **33**:45-57.
- Brooks, S.J. and Jackson, K.A. 2001. The Odonata of Bioko, Republic of Equatorial Guinea, with the description of fan-shaped setae on early instar Libellulidae larvae. *Odonatologica* **30**:29-38.
- Carle, F.L., K.M. Kjer and May, M.L. 2008. Evolution of Odonata, with special reference to Coenagrionoidea (Zygoptera). *Arthropod Systematics and Phylogeny* **66**:37-44.
- Carle, F.L. and Wighton, D.C. 1990. Odonata. In: D.A. Grimaldi (ed.), *Insects from the Santana Formation, Lower Cretaceous, of Brazil. Bulletin of the Natural Museum of Natural History*, **195**:51-68.
- Clark, T.E. and Samways, M.J. 1996. Dragonflies (Odonata) as indicators of biotope quality in the Kruger National Park, South Africa. *Journal of Applied Ecology* **33**:1001-1012.
- Clausnitzer, V. 2003. Dragonfly communities in coastal habitats of Kenya: indication of biotope quality and the need of conservation measures. *Biodiversity and Conservation* **12**:333-356.
- Clausnitzer, V. and Dijkstra, K.-D.B. 2005a. The dragonflies (Odonata) of Ethiopia, with notes on the status of endemic taxa and the description of a new species. *Entomologische Zeitschrift* **115**:117-130.
- Clausnitzer, V. and Dijkstra, K.-D.B. 2005b. Honouring Nobel Peace Prize winner Wangari Maathai: *Notogomphus maathai* spec. nov., a threatened dragonfly of Kenya's forest streams. *International Journal of Odonatology* **8**:177-182.
- Clausnitzer, V. and Jödicke, R. (eds.) 2004. Guardians of the Watershed. Global status of dragonflies: critical species, threat and conservation. *International Journal of Odonatology* **7**:111-430.
- Clausnitzer, V., Kalkman, V.J., Ram, M., Collen, B., Baillie, J.E.M., Bedjanič, M., Darwall, W.R.T., Dijkstra, K.-D.B., Dow, R., Hawking, J., Karube, H., Malikova, E., Paulson, D., Schütte, K., Suhling, F., Villanueva, R., von Ellenrieder, N. and Wilson, K. 2009. Odonata enter the biodiversity crisis debate: the first global assessment of an insect group. *Biological Conservation* **142**:1864-1869.
- Clausnitzer, V. and Lindeboom, M. 2002. Natural history and description of the dendrolimnetic larvae of *Coryphagrion grandis* (Odonata). *International Journal of Odonatology* **5**:29-44.
- Clausnitzer, V. and Martens, A. 2004. Critical species of Odonata in the Comoros, Seychelles, Mascarenes and other small western Indian Ocean islands. In: V. Clausnitzer and R. Jödicke (eds.), *Guardians of the Watershed. Global status of dragonflies: critical species, threat and conservation. International Journal of Odonatology* **7**:207-218.
- Corbet, P.S., 1999. Dragonflies: behaviour and ecology of Odonata. Harley Books, Colchester 1-829.
- Córdoba-Aguilar, A. (ed.) 2008. Dragonflies: Model Organisms for Ecological and Evolutionary Research. Oxford University Press, Oxford.
- de Jong, R. and Congdon, T.C.E. 1993. The montane butterflies of the eastern Afrotropics. In: J.C. Lovett and S.K. Wasser (eds.), *Biogeography and ecology of the rain forests of eastern Africa*. Cambridge University Press, Cambridge 133-172.
- Damm, S., Dijkstra K.-D.B. and Hadrys, H. 2010. Red drifters and dark residents: the phylogeny and ecology of a Plio-Pleistocene dragonfly radiation reflects Africa's changing environment (Odonata, Libellulidae, *Trithemis*). *Molecular Phylogenetics and Evolution* **54**:870-882.
- Damm, S. and Hadrys, H. 2009. *Trithemis morrisoni* sp. nov. and *T. palustris* sp. nov. from the Okavango and Upper Zambezi Floodplains previously hidden under *T. stictica* (Odonata: Libellulidae). *International Journal of Odonatology* **12**:131-145.
- Damm, S., Schierwater B. and Hadrys, H. 2010. An integrative approach to species discovery in odonates: from character-based DNA barcoding to ecology. *Molecular Ecology* 2010: published online.
- Darwall, W., Smith, K., Lowe, T. and Vié, J.-C. 2005. The Status and Distribution of Freshwater Biodiversity in Eastern Africa. IUCN viii + 36 pp.
- Dijkstra, K.-D.B. 2003a. Problems in *Chlorocypha* classification: four cases from West Africa and a discussion of the taxonomic pitfalls (Odonata: Chlorocyphidae). *International Journal of Odonatology* **6**:109-126.
- Dijkstra, K.-D.B. 2003b. A review of the taxonomy of African Odonata: finding ways to better identification and biogeographic insight. *Cimbebasia* **18**:191-206.
- Dijkstra, K.-D.B. 2004. Odonates. In: M. Louette, D. Meirte and R. Jocqué (eds.), *La faune terrestre de l'archipel des Comores. Studies in Afrotropical Zoology* **293**:251-252.
- Dijkstra, K.-D.B. 2005a. The identity of some widespread and variable *Phyllomacromia* species, with a revised grouping of the genus (Anisoptera: Corduliidae). *Odonatologica* **34**:11-16.
- Dijkstra, K.-D.B. 2005b. Lake Malawi's Dancing Jewel: Elliot Pinhey's letters to its discoverer John Wilson. *W.D.A.'s Agrion* **9**:23-24.
- Dijkstra, K.-D.B. 2005c. Taxonomy and identification of the continental African *Gynacantha* and *Heliaeschna* species (Odonata: Aeshnidae). *International Journal of Odonatology* **8**:1-32.
- Dijkstra, K.-D.B. 2006a. African *Diplacodes*: the status of the small species and the genus *Philonomon* (Odonata: Libellulidae). *International Journal of Odonatology* **9**:119-132.
- Dijkstra, K.-D.B. 2006b. The *Atoconeura* problem revisited: taxonomy, phylogeny and biogeography of a dragonfly genus in the highlands of Africa (Odonata, Libellulidae). *Tijdschrift voor Entomologie* **149**:121-144.
- Dijkstra, K.-D.B. 2006c. Taxonomy and biogeography of *Porpax*, a dragonfly genus centred in the Congo Basin

- (Odonata, Libellulidae). *Tijdschrift voor Entomologie* **149**:71-88.
- Dijkstra, K.-D.B. 2007a. The name-bearing types of Odonata held in the Natural History Museum of Zimbabwe, with systematic notes on Afrotropical taxa. Part 1: introduction and Anisoptera. *International Journal of Odonatology* **10**:1-29.
- Dijkstra, K.-D.B. 2007b. Dragonflies and damselflies (Odonata) of Lokutu. In: T.M. Butynski and J. McCullough (eds.), *A rapid biological assessment of Lokutu, Democratic Republic of Congo. RAP Bulletin of biological assessment* **46**:21-36.
- Dijkstra, K.-D.B. 2007c. Gone with the wind: westward dispersal across the Indian Ocean and island speciation in *Hemicordulia* dragonflies (Odonata: Corduliidae). *Zootaxa* **1438**:27-48.
- Dijkstra, K.-D.B. 2007d. Demise and rise: the biogeography and taxonomy of the Odonata of tropical Africa. In: K.-D.B. Dijkstra (ed.), *Demise and rise: the biogeography and taxonomy of the Odonata of tropical Africa*. PhD Thesis, Leiden University. 143-187.
Available at: http://barakken.nl/kddijkstra/PDFs/D2007_BiogeogTaxonAfrOdonata.pdf
- Dijkstra, K.-D.B. 2007e. Rapid survey of dragonflies and damselflies (Odonata) of North Lorma, Gola and Grebo National Forests, Liberia. In: P. Hoke, R. Demey and A. Peal (eds.), *A rapid biological assessment of North Lorma, Gola and Grebo National Forests, Liberia. RAP Bulletin of Biological Assessment* **44**:25-28 (report), 79-85 (appendix).
- Dijkstra, K.-D.B. 2007f. Dragonflies and damselflies (Odonata) of the Atewa Range. In: J. McCullough, L.E. Alonso, P. Naskrecki, H.E. Wright and Y. Osei-Owusu (eds.), *A rapid biological assessment of the Atewa Range Forest Reserve, Eastern Ghana. RAP Bulletin of biological assessment* **47**:50-54 (report), 137-142 (appendix).
- Dijkstra, K.-D.B. 2008. The Systematist's Muse – two new damselfly species from 'Elisabetha' in the Congo Basin (Odonata: Chlorocyphidae, Platycnemididae). *Zoologische Mededelingen* **82**:15-27.
- Dijkstra, K.-D.B. 2009. Dragonflies and damselflies (Odonata) of the Lower Malagarasi Basin, western Tanzania. In: *Malagarasi Aquatic Rapid Biodiversity Assessment*. Mott MacDonald, 53-60.
- Dijkstra, K.-D.B. 2010. Odonata of the Gulf of Guinea Islands. http://www.gccg.st/Species_Lists/odonata.htm (consulted August 2010)
- Dijkstra, K.-D.B. in prep. A review of the genus *Notogomphus*, with the description of four new species (Odonata: Gomphidae). *International Journal of Odonatology* (to be submitted).
- Dijkstra, K.-D.B. and Boudot, J.-P. 2010. First update of the Atlas of the Odonata of the Mediterranean and North Africa: *Orthetrum machadoi* new to the Palaearctic and *Agriocnemis sania* new to the Egyptian Nile Valley. *Libellula* **29**:107-125.
- Dijkstra, K.-D.B. and Clausnitzer, V. 2004. Critical species of Odonata in Madagascar. In: V. Clausnitzer and R. Jödicke (eds.), *Guardians of the Watershed. Global status of dragonflies: critical species, threat and conservation. International Journal of Odonatology* **7**:219-228.
- Dijkstra, K.-D.B. and Clausnitzer, V. 2006. Thoughts from Africa: how can forest influence species composition, diversity and speciation in tropical Odonata? In: A. Cordero Rivera (ed.), *Forests and dragonflies*. Pensoft Publishers, Sofia 127-151.
- Dijkstra, K.-D.B. and Clausnitzer, V. in prep. The Dragonflies and Damselflies of Eastern Africa: handbook for all Odonata from Sudan to Zimbabwe. Studies in Afrotropical Zoology. Belgian Royal Museum for Central Africa (expected 2011).
- Dijkstra, K.-D.B., Clausnitzer, V. and Martens, A. 2007a. Tropical African *Platycnemis* damselflies and the biogeographical significance of a new species from Pemba Island, Tanzania (Odonata: Platycnemididae). *Systematics and Biodiversity* **5**:187-198.
- Dijkstra, K.-D.B., Clausnitzer, V. and Vick, G.S. 2006a. Revision of the three-striped species of *Phyllogomphus* (Odonata, Gomphidae). *Tijdschrift voor Entomologie* **149**:1-14.
- Dijkstra, K.-D.B., Groeneveld, L.F., Clausnitzer, V. and Hadrys, H. 2007b. The *Pseudagrion* split: molecular phylogeny confirms the morphological and ecological dichotomy of Africa's most diverse genus of Odonata (Coenagrionidae). *International Journal of Odonatology* **10**:31-41.
- Dijkstra, K.-D.B., Kipping, J. and Schütte, K. 2011. Chapter 5. The status and distribution of dragonflies (Odonata). In: E.G.E. Brooks, D.J. Allen, and W. Darwall (compilers). *The Status and Distribution of Freshwater Biodiversity in Central Africa*. Gland, Switzerland and Cambridge, UK: IUCN.
- Dijkstra, K.-D.B. and Lempert, J. 2003. Odonate assemblages of running waters in the Upper Guinean forest. *Archiv für Hydrobiologie* **157**:397-412.
- Dijkstra, K.-D.B. and Lewington, R. 2006. Field guide to the Dragonflies of Britain and Europe. British Wildlife Publishing, 320 pp.
- Dijkstra, K.-D.B., Martens, A. and Parr, M.J. 2003. Proceedings of the 1st PHAON Meeting on African Odonata, Gällivare, 26 July 2001, Foreword, African Odonatology: past, present and future. *Cimbebasia* **18**:161-166.
- Dijkstra, K.-D.B. and Matushkina, N. 2009. Kindred spirits: "*Brachythemis leucosticta*", Africa's most familiar dragonfly, consists of two species (Odonata: Libellulidae). *International Journal of Odonatology* **12**:237-256.
- Dijkstra, K.-D.B., Tchibozo, S.L. and Ogbogu, S.S. 2009. Chapter 5. The status and distribution of dragonflies and damselflies (Odonata) in western Africa. In: K.G. Smith, M.D. Diop, M. Niane and W.R.T. Darwall (eds.) *The Status and Distribution of Freshwater Biodiversity in Western Africa*. Gland, Switzerland and Cambridge, UK: IUCN pp.41-55.
- Dijkstra, K.-D.B. and Pilgrim, E.M. 2007. *Trithetrum*, a new genus of African dragonflies formerly placed in *Sympetrum*

- (Odonata, Libellulidae). *Journal of Afrotropical Zoology* **3**:77-81.
- Dijkstra, K.-D.B., Samways, M.J. and Simaika, J. 2007c. Two new relict *Syncordulia* species found during museum and field studies of Red Listed dragonflies in the Cape Floristic Region (Odonata, Corduliidae). *Zootaxa* **1467**:19-34.
- Dijkstra, K.-D.B., Suhling F. and Müller, O. 2006b. Review of the genus *Zygonoides*, with description of the larvae and notes on 'zygonychine' Libellulidae (Odonata). *Tijdschrift voor Entomologie* **149**:275-292.
- Dijkstra, K.-D.B. and Vick, G.S. 2006. Inflation by venation and the bankruptcy of traditional genera: the case of *Neodythemis* and *Micromacromia*, with keys to the continental African species and the description of two new *Neodythemis* species from the Albertine Rift (Odonata: Libellulidae). *International Journal of Odonatology* **9**:51-70.
- Dowsett, R.J. 1986. Origins of high-altitude avifaunas of tropical Africa. In: F. Vuilleumier and M. Monasterio (eds.), *High altitude tropical biogeography*. Oxford University Press, New York and Oxford 557-585.
- Dowsett-Lemaire, F. and Dowsett, R.J. 2001. African forest birds: patterns of endemism and species richness. In: W. Weber, L.J.T White, A. Vedder and L. Naughton-Treves (eds.), *African rain forest ecology and conservation*. Yale University Press, New Haven and London 233-262.
- Dumont, H.J. 1980. The dragonfly fauna of Egypt, and the role of the Nile in its origin and composition (Insecta: Odonata). *Journal of Water Supply and Management* **4**:29-34.
- Dumont, H.J. 1991. Odonata of the Levant. In: Por, F.D. (ed.), *Fauna Palestina, Insecta, V*. The Israel Academy of Sciences and Humanities, Jerusalem, 297 pp.
- Dumont, H.J., Vanfleteren, J.R., De Jonckheere, J.F. and Weekers, P.H.H. 2005. Phylogenetic relationships, divergence time estimation, and global biogeographic patterns of calopterygoid damselflies (Odonata, Zygoptera) inferred from ribosomal DNA sequences. *Systematic Biology* **54**:347-362.
- Dumont, H.J., Vierstraete A. and Vanfleteren, J.R. 2009. A molecular phylogeny of the Odonata (Insecta). *Systematic Entomology* **35**:6-18.
- Fincke, O.M. 1992a. Interspecific competition for tree holes: consequences for mating systems and coexistence in neotropical damselflies. *American Naturalist* **139**:81-101.
- Fincke, O.M. 1992b. Behavioural ecology of the giant damselflies of Barro Colorado Island, Panama (Odonata, Zygoptera: Pseudostigmatidae). In: D. Quintero and A. Aiello (eds.), *Insects of Panama and Mesoamerica: Selected Studies*. Oxford University Press.
- Fjeldså, J. 1994. Geographical patterns for relict and young species of birds in Africa and South America and implications for conservation priorities. *Biodiversity and Conservation* **3**:207-226.
- Fjeldså, J. 2003. Patterns of endemism in African birds: how much does taxonomy matter? *Ostrich* **74**:30-38.
- Fjeldså, J. and Lovett, J.C. 1997. Geographical patterns of old and young species in African forest biota: the significance of specific montane areas as evolutionary centres. *Biodiversity and Conservation* **6**:325-346.
- Flynn, J.J. and Wyss, A.R. 1998. Recent advances in South American mammalian paleontology. *Trends in Ecology and Evolution* **13**:449-454.
- Groeneveld, L.F., Clausnitzer, V. and Hadrys, H. 2007. Convergent evolution of gigantism in damselflies of Africa and South America? Evidence from nuclear and mitochondrial sequence data. *Molecular Phylogenetics and Evolution* **42**:339-346.
- Harper, G.J., Steininger, M.K., Tucker, C.J., Juhn D. and Hawkins, F. 2007. Fifty years of deforestation and forest fragmentation in Madagascar. *Environmental Conservation* **34**:325-333.
- Kalkman, V.J., Boudot, J.-P., Bernard, R., Conze, K.-J., De Knijf, G., Dyatlova, E., Ferreira, S., Jović, M., Ott, J., Riservato, E. and Sahlén, G. 2010. European Red List of Dragonflies. Luxembourg: Publications Office of the European Union.
- Kalkman, V.J., Clausnitzer, V., Dijkstra, K.-D.B., Orr, A.G., Paulson, D.R. and van Tol, J. 2008. Global diversity of dragonflies (Odonata; Insecta) in freshwater. In: E. Balian, K. Martens, C. Lévêque and H. Segers (eds.), *A global assessment of animal diversity in freshwater*. *Hydrobiologia* **595**:351-363.
- Karsch, F. 1894. Libellen von der deutschen Forschungs-Station Yaúnde im Hinterlande von Kamerun, gesammelt von Herrn G. Zenker. *Berliner entomologischer Zeitschrift* **39**:11-16.
- Kingdon, J. 1989. *Island Africa*. Princeton University Press, Princeton 1-287.
- Kinzig, R. and Samways, M.J. 2000. Conserving dragonflies (Odonata) along streams running through commercial forestry. *Odonatologica* **29**:195-208.
- Kipping, J. 2000. Dragonfly research in the Okavango Delta, Botswana. IDF-Report **4**(1):18-26.
- Kipping, J. 2003a. Die Libellenfauna (Odonata) Botswanas. Diplomarbeit, Hochschule Anhalt, Bernburg, 1-229.
- Kipping, J. 2003b. Odonata recorded from the Okavango Delta. In: L.E. Alonso and L.-A. Nordin (eds.), *A rapid biological assessment of the aquatic ecosystems of the Okavango Delta, Botswana: High water survey*. *RAP Bulletin of Biological Assessment* **27**:137-139.
- Kipping, J., 2007. Dragonflies (Odonata) and Butterflies (Lepidoptera). In: M.J. Samways (ed.), *Compiling taxonomic survey data for five protected areas in Botswana – Final report*. Ministry of Environment, Wildlife and Tourism, Department of Wildlife and National Parks of Botswana, Gaborone (unpublished report).
- Kipping, J., Dijkstra, K.-D.B., Clausnitzer, V., Suhling, F. and Schütte, K. 2009. Odonata Database of Africa (ODA). *Agrión* **13**:20-23.
- Legrand, J. 1975. Contribution a la faune du Gabon, Odonates: 1re Note. *Annales de la société entomologique de France (n.s.)* **11**:679-696.

- Legrand, J. 2003. Les Odonates du Nimba et de sa région. In: M. Lamotte and R. Roy (eds.), *Le peuplement animal du mont Nimba (Guinée, Côte d'Ivoire, Liberia)*. *Mémoires du Muséum national d'Histoire naturelle* **190**:231-310.
- Lovett, J.C. 1993. Climatic history and forest distribution in eastern Africa. In: J.C. Lovett and S.K. Wasser (eds.), *Biogeography and ecology of the rain forests of eastern Africa*. Cambridge University Press, Cambridge 23-29.
- Magoba, R.N. and Samways, M.J. 2010. Restoration of aquatic macroinvertebrate assemblages through large-scale removal of invasive alien trees. *Journal of Insect Conservation* (in press).
- Maley, J. 1989. Late Quaternary climatic changes in the African rain forest: forest refugia and the major role of sea surface variations. In: M. Leinen and M. Sarnthein (eds.), *Paleoclimatology and paleometeorology: modern and past patterns of global atmospheric transport*. Kluwer Academic Publishers, Dordrecht 585-616.
- Martens, A., Richter, O. and Suhling, F. 2010. The relevance of perennial springs for regional biodiversity and conservation. In: U. Schmiedel and N. Jürgens (eds.), *Biodiversity in southern Africa 2: Patterns and processes at regional scale*. Klaus Hess Publishers, Göttingen and Windhoek: 70-74.
- McDougall, I. and Duncan, R.A. 1988. Age progressive volcanism in the Tasmanid Seamounts. *Earth and Planetary Science Letters* **89**:207-220.
- Miller, P.L., 1964. Notes on *Ictinogomphus ferox* Rambur (Odonata, Gomphidae). *Entomologist* **97**:52-66.
- Mitchell, A. and Samways, M.J. 2005. The morphological 'forms' of *Palpopleura lucia* (Drury) are separate species as evidenced by DNA sequencing (Anisoptera: Libellulidae). *Odonatologica* **34**:173-178.
- Moore, A.E. and Larkin, P.A. 2001. Drainage evolution in south-central Africa since the breakup of Gondwana. *South African Journal of Geology* **104**:47-68.
- Morley, R.J. 2000. Origin and evolution of tropical rain forests. John Wiley and Sons, Chichester 1-362.
- Nel, A. and Paicheler, J.-C. 1993. Les Odonata fossiles: état actuel de connaissances. Huitième partie: les Calopterygoidea fossiles (Odonata, Zygoptera). *Bulletin de la Société entomologique de France* **97**:381-396.
- Nel, A. and Petrulevičius, J.F. 2010. Afrotropical and Nearctic genera of Odonata in the French Oligocene: biogeographic and paleoclimatic implications (Insecta: Calopterygidae, Aeshnidae). *Annales de la Société entomologique de France (n.s.)* **46**:228-236.
- Niba, A.S. and Samways, M.J. 2006. Development of the concept of 'core resident species' for quality assurance of an insect reserve. *Biodiversity and Conservation* **15**:4181-4196.
- Oertli, B. 2008. The use of dragonflies in the assessment and monitoring of aquatic habitats. In: A. Córdoba-Aguilar (ed.), *Dragonflies: Model Organisms for Ecological and Evolutionary Research*. Oxford University Press, Oxford 79-96.
- O'Neill, G. and Paulson, D.R. 2001. An annotated list of Odonata collected in Ghana in 1997, a checklist of Ghana Odonata, and comments on West African odonate biodiversity and biogeography. *Odonatologica* **30**:67-86.
- Opazo, J.C., Wildman, D.E., Prychitko, T., Johnson, R.M. and Goodman, M. 2006. Phylogenetic relationships and divergence times among New World monkeys (Platyrrhini, Primates). *Molecular Phylogenetics and Evolution* **40**:274-280.
- Parr, M.J. 1984. The seasonal occurrence of Odonata in the Liwonde National Park, Malawi. *Advances in Odonatology* **2**:157-167.
- Parrish, J.T. 1993. The palaeogeography of the opening South Atlantic. In: W. George and R. Lavocat (eds.), *The Africa-South America Connection*. Oxford Monographs on Biogeography. Clarendon Press, Oxford, 7:8-27.
- Petrulevičius, J.F. and Nel, A. 2009. First Cordulephyidae dragonfly in America: A new genus and species from the Paleogene of Argentina (Insecta: Odonata) *Comptes Rendus Palevol* **8**:385-388.
- Pinhey, E. 1961a. A survey of the dragonflies (order Odonata) of Eastern Africa. British Museum (Natural History), London.
- Pinhey, E. 1961b. Dragonflies (Odonata) of Central Africa. *Occasional Papers of the Rhodes-Livingstone Museum* **14**:1-97.
- Pinhey, E. 1964. The St. Helena Dragonfly (Odonata, Libellulidae). *Arnoldia (Rhodesia)* **1**(2):1-3.
- Pinhey, E. 1974. Odonata of the Northwest Cameroons and particularly of the islands stretching southwards from the Guinea Gulf. *Bonner zoologische Beitrage* **25**:179-212.
- Pinhey, E. 1976. Dragonflies (Odonata) of Botswana, with ecological notes. *Occasional Papers of the National Museum of Southern Rhodesia (B)* **5**:524-601.
- Pinhey, E. 1978. Odonata. In: J.A. Werger (ed.), *Biogeography and ecology of southern Africa*. Dr. W. Junk Publishers, The Hague 723-731.
- Pinhey, E. 1984. A checklist of the Odonata of Zimbabwe and Zambia. *Smithersia* **3**:1-64.
- Plana, V. 2004. Mechanisms and tempo of evolution in the African Guineo-Congolian rainforest. *Philosophical Transactions of the Royal Society of London (B)* **359**:1585-1594.
- Rambur, J.P. 1842. Histoire naturelle des insectes névroptères. Roret's Suite à Buffon, Paris, 534pp.
- Samraoui, B. 2009. Seasonal ecology of Algerian Lestidae (Odonata). *International Journal of Odonatology* **12**:383-394.
- Samraoui, B., Boudot, J.-P., Riservato, E., Ferreira, S., Jovič, M., Kalkman, V.J. and Schneider, W. 2010. The Status and Distribution of Dragonflies (Odonata). In: N. Garcia, A. Cuttelod and D. Abdul Malak (eds.), *The Status and Distribution of Freshwater Biodiversity in Northern Africa*. Gland, Switzerland, Cambridge, UK, and Malaga: IUCN 2010.

- Samraoui, B., Bouzid, S., Boulahbal, R. and Corbet, P.S. 1998. Postponed reproductive maturation in upland refuges maintains life-cycle continuity during the hot, dry season in Algerian dragonflies. *International Journal of Odonatology* **1**:119-135.
- Samways, M.J. 1989. Farm dams as nature reserves for dragonflies (Odonata) at various altitudes in the Natal Drakensberg mountains, South Africa. *Biological Conservation* **48**:181-187
- Samways, M.J. 1999. Diversity and conservation status of South African dragonflies (Odonata). *Odonatologica* **28**:13-62.
- Samways, M.J. 2003a. Conservation of an endemic dragonfly fauna in the Seychelles archipelago. *Odonatologica* **32**:177-182.
- Samways, M.J. 2003b. Threats to the tropical island dragonfly fauna (Odonata) of Mayotte, Comoro Archipelago. *Biodiversity and Conservation* **12**:1785-1792.
- Samways, M.J. 2006a. National Red List of South African dragonflies (Odonata). *Odonatologica* **35**:341-368.
- Samways, M.J. 2006b. Threat levels to odonate assemblages from invasive alien tree canopies. In: A. Cordero (ed.), *Forests and Dragonflies*. Pensoft, Sofia, Bulgaria 209-224.
- Samways, M.J. 2008. Dragonflies and damselflies of South Africa. Pensoft, Sofia.
- Samways, M.J. 2010. Extreme weather and climate change impacts on South African dragonflies. In: J. Ott (ed.), *Monitoring Climate Change with Dragonflies*. Pensoft, Sofia (in press).
- Samways, M.J. and Grant, P.B.C. 2006a. Honing Red List assessments of lesser-known taxa in biodiversity hotspots. *Biodiversity and Conservation* **16**:2575-2586.
- Samways, M.J. and Grant, P.B.C. 2006b. Regional response of Odonata to river systems impacted by and cleared of invasive alien trees. *Odonatologica* **35**:297-303.
- Samways, M.J. and Niba, A.S. 2010. Wide elevational tolerance and ready colonization may be a buffer against climate change in a South African dragonfly assemblage. In: J. Ott (ed.), *Monitoring Climate Change with Dragonflies*. Pensoft, Sofia (in press).
- Samways, M.J., Osborn, R. and van Heerden, I. 1996. Distribution of benthic invertebrates at different depths in a shallow reservoir in the KwaZulu-Natal Midlands. *Koedoe* **39**:69-76.
- Samways, M.J. and Sharratt, N.J. 2010. Recovery of endemic dragonflies after removal of invasive alien trees. *Conservation Biology* **24**:267-277.
- Samways, M.J. and Taylor, S. 2004. Impacts of invasive alien plants on red-listed South African dragonflies (Odonata). *South African Journal of Science* **100**:78-80.
- Samways, M.J., Taylor, S. and Tarboton, W. 2005. Extinction relieve following alien removal. *Conservation Biology* **19**:1329-1330.
- Simaika, J.P. and Samways, M.J. 2008. Valuing dragonflies as service providers. In: A. Córdoba-Aguilar (ed.), *Dragonflies: Model Organisms for Ecological and Evolutionary Research*. Oxford University Press, Oxford 109-123.
- Simaika, J.P. and Samways, M.J. 2009a. An easy-to-use index of ecological integrity for prioritizing freshwater sites and for assessing habitat quality. *Biodiversity and Conservation* **18**:1171-1185.
- Simaika, J.P. and Samways, M.J. 2009b. Reserve selection using Red Listed taxa in three global biodiversity hotspots: Dragonflies in South Africa. *Biological Conservation* **142**:638-651.
- Simaika, J.P. and Samways, M.J. 2010. Comparative assessment of indices of freshwater habitat conditions. *Ecological Indicators* doi:10.1016/j.ecolind.2010.06.005
- Stewart, D.A.B. and Samways, M.J. 1998. Conserving dragonfly (Odonata) assemblages relative to river dynamics in a major African savanna game reserve. *Conservation Biology* **12**:683-692.
- Steytler, N.S. and Samways, M.J. 1995. Biotope selection by adult male dragonflies (Odonata) at an artificial lake created for insect conservation in South Africa. *Biological Conservation* **72**:381-386.
- Suh, A. and Samways, M.J. 2001. Development of a dragonfly awareness trail in an African botanical garden. *Biological Conservation* **100**:345-353.
- Suh, A. and Samways, M.J. 2005. Significance of temporal changes when designing a reservoir for conservation of dragonfly diversity. *Biodiversity and Conservation* **14**:165-178.
- Suhling, F., Jödicke, R. and Schneider, W. 2003. Odonata of African arid regions – are there desert species? *Cimbebasia* **18**:207-224.
- Suhling, F. and Martens, A. 2007. A fieldguide to the dragonflies of Namibia. Gamsberg McMillan, Windhoek.
- Suhling, F., A. Martens and E. Marais, 2009b. How to enter a desert – patterns of Odonata colonisation of arid Namibia. *International Journal of Odonatology* **12**:287-308.
- Suhling, F., Sahlén, G., Kasperski, J. and Gaedecke, D. 2005. Behavioural and life history traits in temporary and perennial waters: comparisons among three pairs of sibling dragonfly species. *Oikos* **108**:609-617.
- Suhling, F., Sahlén, G., Martens, A., Marais, E. and Schütte, C. 2006. Dragonfly assemblages in arid tropical environments: a case study from western Namibia. *Biodiversity and Conservation* **15**:311-332.
- Suhling, F., Samways, M.J., Simaika, J.P. and Kipping, J. 2009a. Chapter 5. The status and distribution of dragonflies (Odonata). In: W.R.T. Darwall, K.G. Smith, D. Tweddle and P. Skelton (eds.), *The Status and Distribution of Freshwater Biodiversity in Southern Africa*. IUCN and SAIAB 48-65.
- Suhling, F., Samways, M.J., Simaika, J.P., Richter, O., Marais, E., Martens, A. and Kipping, J. 2010. Dragonfly diversity from the Cape to the Kavango. In: U. Schmiedel and N. Jürgens (eds.), *Biodiversity in southern Africa 2: Patterns and processes at regional scale*. Klaus Hess Publisher, Göttingen and Windhoek: 64-69.
- Suhling, F., Schenk, K., Padefke, T. and Martens, A. 2004. Field data on larval development patterns in a dragonfly


- assemblage of African desert ponds. *Hydrobiologia* **528**:75-85
- Tarboton, W. and Tarboton, M. 2002. A fieldguide to the dragonflies of South Africa. Private publication.
- Tarboton, W. and Tarboton, M. 2005. A fieldguide to the damselflies of South Africa. Private publication.
- Van Huyssteen, P. and Samways, M.J. 2009. Overwintering dragonflies in an African savanna (Anisoptera: Gomphidae, Libellulidae). *Odonatologica* **38**:167-172.
- Van Tol, J., Reijnen, B.T. and Thomassen, H.A. 2009. Phylogeny and biogeography of the Platystictidae (Odonata). In: J. Van Tol (ed.), *Phylogeny and biogeography of the Platystictidae (Odonata)*. PhD Thesis, Leiden University. 3-70.
- Vick, G.S. 1998. Notes on some damselfly larvae from Cameroon (Zygoptera: Perilestidae, Amphipterygidae, Platycnemididae). *Odonatologica* **27**:87-98.
- Vick, G.S. 1999. A checklist of the Odonata of the South-West province of Cameroon, with the description of *Phyllogomphus corbetiae* spec. nov. (Anisoptera: Gomphidae). *Odonatologica* **28**:219-256.
- Ware, J.L., May, M.L. and Kjer, K.M. 2007. Phylogeny of the higher Libelluloidea (Anisoptera: Odonata): an exploration of the most speciose superfamily of dragonflies. *Molecular Phylogenetics and Evolution* **45**:289-310.
- Ware, J.L., Simaika, J.P. and Samways, M.J. 2009. Biogeography and divergence estimation of the relict Cape dragonfly genus *Syncordulia*: global significance and implications for conservation. *Zootaxa* **2216**:22-36.
- White, F. 1981. The history of the Afromontane archipelago and the scientific need for its conservation. *African Journal of Ecology* **19**:33-54.
- White, L.J.T. 2001. The African rain forest: climate and vegetation. In: W. Weber, L.J.T. White, A. Vedder and L. Naughton-Treves (eds.), *African rain forest ecology and conservation*. Yale University Press, New Haven and London 3-29.
- Bott, R. 1959. Potamoniden aus West-Afrika (Crust., Dec.). *Bulletin de l'Institut français d'Afrique noire* **21**, série A(3):994-1008.
- Bott, R. 1969. Präadaptation, Evolution und Besiedlungsgeschichte der Süßwasserkrabben der Erde. *Natur und Museum* **99**:266-275.
- Bott, R. 1970. Betrachtungen über die Entwicklungsgeschichte und Verbreitung der Süßwasser-Krabben nach der Sammlung des Naturhistorischen Museums in Genf/Schweiz. *Revue suisse de Zoologie* **77**(2):327-344.
- Brandis, D., Storch, V. and Türkay, M. 2000. Taxonomy and zoogeography of the freshwater crabs of Europe, North Africa, and the Middle East (Crustacea, Decapoda, Potamidae). *Senckenbergiana Biologia* **80**:5-56.
- Brooks, E.G.E., Allen, D.J. and Darwall, W. (Compilers). 2011. *The Status and Distribution of Freshwater Biodiversity in Central Africa*. Gland, Switzerland and Cambridge, UK: IUCN.
- Collen, B., Ram, M., Dewhurst, N., Clausnitzer, V., Kalkman, V., Cumberlidge, N. and Baillie, J.E.M. 2008. Broadening the coverage of biodiversity assessments. In: J.-C. Vié, C. Hilton-Taylor and S.N. Stuart (eds). *The 2008 Review of The IUCN Red List of Threatened Species*. IUCN: Gland, Switzerland.
- Corace, R.G., Cumberlidge, N. and Garms, R. 2001. A new species of freshwater crab from Rukwanzi, East Africa. *Proceedings of the Biological Society of Washington* **114**:178-187.
- Cumberlidge, N. 1987. Notes on the taxonomy of West African gecarcinucids of the genus *Globonantes* (Brachyura, Decapoda). *Canadian Journal of Zoology* **65**:2210-2215.
- Cumberlidge, N. 1989. Redescription of *Sudanonantes orthostylis* (Bott, 1955), a fresh-water crab from Nigeria, Cameroon and Ghana (Decapoda, Potamonautidae), with notes on its ecology. *Crustaceana* **56**(3):230-245.
- Cumberlidge, N. 1991. The respiratory system of *Globonantes macropus* (Rathbun 1898), a terrestrial freshwater crab from Liberia (Parathelphusoidea, Gecarcinucidae). *Crustaceana* **61**:69-80.
- Cumberlidge, N. 1993a. Redescription of *Sudanonantes granulatus* (Balss, 1929) (Potamoidea, Potamonautidae) from West Africa. *Journal of Crustacean Biology* **113**(4):805-816.
- Cumberlidge, N. 1993b. Two new species of *Potamonemus* Cumberlidge and Clark, 1992 (Brachyura, Potamoidea, Potamonautidae) from the rain forests of West Africa. *Journal of Crustacean Biology* **13**(3):571-584.
- Cumberlidge, N. 1993c. Further remarks on the identification of *Sudanonantes orthostylis* (Bott, 1955), with comparisons with other species from Nigeria and Cameroon. *Proceedings of the Biological Society of Washington, USA* **106**(3):514-522.
- Cumberlidge, N. 1994a. Identification of *Sudanonantes aubryi* (H. Milne-Edwards, 1853) (Brachyura: Potamoidea: Potamonautidae) from West and Central Africa. *Zeitschrift für Angewandte Zoologie* **80**:225-241.

Chapter 6 References

- Abell, R., Thieme, M.L., Revenga, C., Bryer, M., Kottelat, M., Bogutskaya, N., Coad, B., Mandrak, N., Balderas, S.C., Bussing, W., Stiassny, M.L.J., Skelton, P., Allen, G.R., Unmack, P., Naseka, A., Ng, R., Sindorf, N., Robertson, J., Armijo, E., Higgins, J.V., Heibel, T.J., Wikramanayake, E., Olson, D., López, H.L., Reis, R.E., Lundberg, J.G., Pérez, M.H.S. and Petry, P. 2008. Freshwater Ecoregions of the World: A New Map of Biogeographic Units for Freshwater Biodiversity Conservation. *BioScience* **58**(5):403-414.
- Balss, H. 1936. Beiträge zur Kenntnis der Potamonidae (Süßwasserkrabben) des Kongogebietes. *Revue de Zoologie et de Botanique Africaines* **28**(2):165-204.
- Bott, R. 1955. Die Süßwasserkrabben von Afrika (Crust., Decap.) und ihre Stammesgeschichte. *Annales du Musée du Congo Belge, (Tervuren, Belgique.) C-Zoologie* **(3,3),3**(1):209-352.

- Cumberlidge, N. 1994b. *Louisea*, a new genus of fresh-water crab (Brachyura, Potamoidea, Potamonautidae). *Globonantes macropus edeensis* Bott, 1969 from Cameroon. *Proceedings of the Biological Society of Washington* **107(1)**:122-131.
- Cumberlidge, N. 1995a. Redescription of *Sudanonautes floweri* (de Man, 1901) (Brachyura: Potamoidea: Potamonautidae) from Nigeria and Central Africa. *Bulletin of the British Museum of Natural History (Zoology)*, London **61(2)**:111-119.
- Cumberlidge, N. 1995b. Redescription of the Central African fresh-water crab *Sudanonautes faradjensis* (Rathbun, 1921) (Brachyura: Potamoidea: Potamonautidae). *Proceedings of the Biological Society of Washington* **108(4)**:629-636.
- Cumberlidge, N. 1995c. Redescription of the African fresh-water crab *Sudanonautes africanus* (A. Milne-Edwards, 1869) (Brachyura: Potamoidea: Potamonautidae). *Journal of Crustacean Biology* **15(3)**:588-598.
- Cumberlidge, N. 1995d. Remarks on the taxonomy of *Sudanonautes chavanesii* (A. Milne-Edwards, 1886) (Brachyura: Potamoidea: Potamonautidae) from Central Africa. *Proceedings of the Biological Society of Washington* **108(2)**:238-246.
- Cumberlidge, N. 1996a. On the Globonautinae Bott, 1969, fresh-water crabs from West Africa (Brachyura: Potamoidea: Gecarcinucidae). *Crustaceana* **69(7)**:809-820.
- Cumberlidge, N. 1996b. A taxonomic revision of fresh-water crabs (Potamoidea, Gecarcinucidae, Globonautinae) from the Upper Guinea Forest of West Africa. *Crustaceana* **69(6)**:681-695.
- Cumberlidge, N. 1997. The African and Madagascan fresh-water crabs in the Museum of Natural History, Vienna (Crustacea: Decapoda: Brachyura: Potamoidea). *Annalen des Naturhistorischen Museums in Wien* **99B**:571-589.
- Cumberlidge, N. 1998. The African and Madagascan fresh-water crabs in the Zoologische Staatssammlung, Munich (Crustacea: Decapoda: Brachyura: Potamoidea). *Spixiana* **21(3)**:193-214.
- Cumberlidge, N. 1999. *The freshwater crabs of West Africa. Family Potamonautidae*. Faune et Flore Tropicales 35, Institut de recherche pour le développement (IRD, ex-ORSTOM), Paris, 1-382.
- Cumberlidge, N. 2008. Insular species of Afrotropical fresh-water crabs (Crustacea: Decapoda: Brachyura: Potamonautidae and Potamidae) with special reference to Madagascar, and the Seychelles. *Contributions to Zoology* **77(2)**:71-81.
- Cumberlidge, N. 2009a. Chapter 27, Freshwater Crabs and Shrimps (Crustacea: Decapoda) of the Nile Basin. In: H.J. Dumont, (ed.), *The Nile. Origin, environments, limnology and human use. Monographiae Biologicae*, **89**:547-561 (Springer, New York).
- Cumberlidge, N. 2009b. A revision of the freshwater crabs of Mt Kenya and the Aberdare Mountains, Kenya, East Africa (Brachyura: Potamoidea: Potamonautidae). *Zootaxa* **1981**:29-42.
- Cumberlidge, N. and Boyko, C.B. 2000. Freshwater crabs (Brachyura: Potamoidea: Potamonautidae) from the rainforests of the Central African Republic. *Proceedings of the Biological Society of Washington* **3(2)**:406-419.
- Cumberlidge, N. and Clark, P.F. 1992. A new genus and species of freshwater crab from Cameroon, West Africa (Crustacea, Brachyura, Potamoidea, Potamonautidae). *Bulletin of the British Museum of Natural History (Zoology)*, London **58(2)**:149-156.
- Cumberlidge, N. and Daniels, S.R. 2008. A conservation assessment of the freshwater crabs of southern Africa (Brachyura: Potamonautidae). *African Journal of Ecology* **46**:74-79.
- Cumberlidge, N. and Dobson, M. 2008. A new species of freshwater crab (Crustacea: Decapoda: Brachyura: Potamonautidae) from western Kenya. *Proceedings of the Biological Society of Washington* **121(4)**:468-474.
- Cumberlidge, N. and Huguet, D. 2003. Les Crustacés Décapodes du Nimba et sa région. *Memoires du Muséum national d'Histoire naturelle, Paris*, **190**:211-229.
- Cumberlidge, N. and Ng, P.K.L. 2009. Systematics, evolution, and biogeography of freshwater crabs. In: J.W. Martin, K.A. Crandall and D. Felder (eds.) *Crustacean Issues: Decapod Crustacean Phylogenetics*, pp. 491-508. Boca Raton, Florida: Taylor & Francis/CRC Press.
- Cumberlidge, N. and Reed, S.K. 2004. *Erimetopus vandenbrandeni* (Balss, 1936) n. comb., with notes on the taxonomy of the genus *Erimetopus* Rathbun, 1894 (Brachyura: Potamoidea: Potamonautidae) from Central Africa. *Zootaxa* **422**:1-27.
- Cumberlidge, N. and Sachs, R. 1991. Ecology, distribution, and growth in *Globonantes macropus* (Rathbun 1898), a tree-living fresh-water crab from the rain forests of Liberia (Parathelphusoidea, Gecarcinucidae). *Crustaceana* **61(1)**:55-68.
- Cumberlidge, N. and Tavares, M. 2006. Remarks on the freshwater crabs of Angola, Southwestern Africa, with the description of *Potamonantes kensleyi*, new species (Brachyura: Potamoidea: Potamonautidae). *Journal of Crustacean Biology* **26**:248-257.
- Cumberlidge, N. and Vannini, M. 2004. Ecology and taxonomy of a tree living freshwater crab (Brachyura: Potamoidea: Potamonautidae) from Kenya and Tanzania, East Africa. *Journal of Natural History* **38**:681-693.
- Cumberlidge, N., Clark, P.F. and Baillie, J. 2002. A new species of freshwater crab (Brachyura: Potamoidea: Potamonautidae) from Principe, Gulf of Guinea, Central Africa. *Bulletin of the British Museum of Natural History (Zoology)*, London **68(1)**:13-18.
- Cumberlidge, N., Daniels, S.R. and Sternberg, R.V. 2008. A revision of the higher taxonomy of the Afrotropical fresh-water crabs (Decapoda: Brachyura) with a discussion of their biogeography. *Biological Journal of the Linnean Society* **93**:399-413.

- Cumberlidge, N., Sternberg, R.V., Bills, I.R. and Martin, H.A. 1999. A revision of the genus *Platythelphusa* A. Milne-Edwards, 1887 from Lake Tanganyika, East Africa (Decapoda: Potamoidea: Platythelphusidae). *Journal of Natural History* **33**:1487-1512.
- Cumberlidge, N., Ng, P.K.L., Yeo, D.C.J., Magalhaes, C., Campos, M.R., Alvarez, F., Naruse, T., Daniels, S.R., Esser, L.J., Attipoe, F.Y.K., Clotilde-Ba, F.-L., Darwall, W., McIvor, A., Ram, M. and Collen, B. 2009. Freshwater crabs and the biodiversity crisis: importance, threats, status, and conservation challenges. *Biological Conservation* **142**:1665-1673.
- Daniels, S.R., Stewart, B.A., Gouws, G., Cunningham, M. and Matthee, C.A. 2002. Phylogenetic relationships of the southern African freshwater crab fauna (Decapoda: Potamonautidae: *Potamonautes*) derived from multiple data sets reveal biogeographic patterning. *Molecular Phylogenetics and Evolution* **25**:511-523.
- Daniels, S.R., Cumberlidge, N., Pérez-Losada, M., Marijnissen, S.A.E. and Crandall, K.A. 2006. Evolution of Afrotropical freshwater crab lineages obscured by morphological convergence. *Molecular Phylogenetics and Evolution* **40**:227-235.
- Darwall, W., Smith, K., Lowe, T. and Vié, J.-C. 2005. *The Status and Distribution of Freshwater Biodiversity in Eastern Africa*. IUCN SSC Freshwater Biodiversity Assessment Programme. IUCN: Gland, Switzerland and Cambridge, UK. viii + 36pp.
- Foster, J. and Harper, D.M. 2006. Status of the alien Louisianan red swamp crayfish *Procambarus clarkii* Girard and the native African freshwater crab *Potamonautes loveni* in rivers of the 674 Lake Naivasha catchment, Kenya. *Freshwater Crayfish* **15**,189-194.
- Foster, J. and Harper, D.M. 2007. Status and ecosystem interactions of the invasive Louisianan red swamp crayfish *Procambarus clarkii* in East Africa. In: F. Gherardi, (ed.), *Biological invaders in inland waters: profiles, distribution, and threats*. Springer, Dordrecht, The Netherlands, pp. 91-101
- Garcia, N., Cuttelod, A., and Abdul Malak, D. (eds). 2010. *The Status and Distribution of Freshwater Biodiversity in Northern Africa*. Gland, Switzerland, Cambridge, UK and Malaga, Spain: IUCN. xiii + 141pp.
- IUCN 2003. *Guidelines for Application of IUCN Red List Criteria at Regional Levels: Version 3.0*. IUCN Species Survival Commission. IUCN: Gland, Switzerland and Cambridge, UK.
- Marijnissen, S.A.E., Schram, F., Cumberlidge, N. and Michel, E. 2004. Two new species of *Platythelphusa* A. Milne-Edwards, 1887 (Decapoda, Potamoidea, Platythelphusidae) and comments on the taxonomic position of *P. denticulata* Capart, 1952 from Lake Tanganyika, East Africa, *Crustaceana* **77**(5):513-532.
- Marijnissen, S.A.E., Lange, S. and Cumberlidge, N. 2005. Revised distribution of the African freshwater crab genus *Deckenia* Hilgendorf, 1868 (Brachyura, Potamoidea, Deckeniidae) *Crustaceana* **78**(7):889-896.
- Ng, P.K.L. and Yeo, D.C.J. 2007. Malaysian freshwater crabs: conservation prospects and challenges. In: L. Chua, (ed.), *Proceedings of the Seminar on the Status of Biological Diversity in Malaysia and Threat Assessment of Plant Species in Malaysia*, 28-30 June 2005. *Forest Research Institute Malaysia, Kepong*, pp.95-120.
- Ng, P.K.L., Števičić, Z. and Pretzmann, G. 1995. A revision of the family Deckeniidae Ortmann, 1897 (Crustacea, Decapoda, Brachyura, Potamoidea) from the Seychelles, Indian Ocean. *Journal of Natural History* **29**:581-600.
- Ogada, M.O. 2006. Effects of the Louisiana crayfish invasion and other human impacts on the African clawless otter. Ph.D. Thesis, Kenyatta University, Kenya.
- Ortmann, A. 1896. Das system der Decapoden-Krebse. *Zoologische Jahrbücher (Systematik)* **9**:409-453.
- Rathbun, M. J. 1921. Brachyuran Crabs of the Belgian Congo. *Bulletin of the American Museum of Natural History* **43**:379-474.
- Reed, S.K. and Cumberlidge, N. 2004. Notes on the taxonomy of *Potamonautes obesus* (A. Milne-Edwards, 1868) and *Potamonautes calcatus* (Gordon, 1929) (Brachyura: Potamoidea: Potamonautidae) from eastern and southern Africa. *Zootaxa* **1262**:1-139.
- Reed, S.K. and Cumberlidge, N. 2006. Taxonomy and biogeography of the freshwater crabs of Tanzania, East Africa (Brachyura: Potamoidea: Potamonautidae, Platythelphusidae, Deckeniidae). *Zootaxa* **418**:1-137.
- Smith, K.G., Diop, M.D., Niane, M. and Darwall, W.R.T. (compilers). 2009. *The Status and Distribution of Freshwater Biodiversity in Western Africa* Gland, Switzerland and Cambridge, UK: IUCN. x + 94pp.
- Thieme, M.L., Abell, R.A., Stiassny, M.J.L., Skelton, P.A. and Lehner, B. 2005. *Freshwater ecoregions of Africa and Madagascar: A conservation assessment*. Island Press, Washington, DC, USA.
- Yeo, D.C.J., Ng, P.K.L., Cumberlidge, N., Magalhães, C., Daniels, S.R. and Campos, M.R. 2008. Global diversity of crabs (Crustacea: Decapoda: Brachyura) in freshwater. *Hydrobiologia* **595**: 275-286.

 **Chapter 6 - Spotlight on species - A unique species flock of freshwater crabs in Lake Tanganyika: a model for studies in evolution and extinction**

- Arrignon, J.C.V., Huner, J.V. and Laurent, P.J. 1990. *L'écrevisse rouge des marais. Technicien d'Agriculture Tropicale* (France), no. 12. Maisonneuve et Larose, Paris, France, pp.1-87
- Cane, M.A. and Molnar, P. 2001. Closing of the Indonesian seaway as a precursor to east African aridification around 3-4 million years ago. *Nature* **411**:157-162.
- Cohen, A.S., Palacios-Fest, M.R. Msaky, E.S., Alin, S.A., McKee, B., O'Reilly, C.M., Dettman, D.L., Nkotagu, H. and Lezzar, K. 2005. Paleolimnological investigations of anthropogenic environmental change in Lake Tanganyika: IX summary of paleorecords of environmental change and catchment deforestation at Lake Tanganyika and

- impacts on the Lake Tanganyika ecosystem. *Journal of Paleolimnology* **43**:125-145.
- Cruz, M.J. and Rebelo, R. 2007. Colonization of freshwater habitats by an introduced crayfish, *Procambarus clarkii*, in Southwest Iberian Peninsula. *Hydrobiologia* **575**:191-201.
- Cumberlidge, N., von Sternberg, R., Bills, I.R. and Martin, H. 1999. A revision of the genus *Platythelphusa* A. Milne-Edwards, 1887 from Lake Tanganyika, East Africa (Decapoda: Potamoidea: Platythelphusidae). *Journal of Natural History* **33**:1487-1512.
- Day, J.J. and Wilkinson, M. 2006. On the origin of the *Synodontis* catfish species flock from Lake Tanganyika. *Biology Letters* **2**:548-552.
- Donohue, I. and Molinos, J.G. 2009. Impacts of increased sediment loads on the ecology of lakes. *Biological Reviews* **84**:517-531.
- Duftner, N., Koblmüller, S. and Sturmbauer, C. 2005. Evolutionary relationships of the Limnochromini, a tribe of benthic deepwater cichlid fish endemic to Lake Tanganyika, East Africa. *Journal of Molecular Evolution* **60**:277-289.
- Glor, R. 2010. Phylogenetic insights on adaptive radiation. *Annual Review of Ecology, Evolution, and Systematics* **41**:521-570.
- Koblmüller, S., Duftner, N., Katongo, C., Phiri, H. and Sturmbauer, C. 2005. Ancient divergence in bathypelagic Lake Tanganyika deepwater cichlids: mitochondrial phylogeny of the tribe Bathybatini. *Journal of Molecular Evolution* **60**:297-314.
- Koblmüller, S., Duftner, N., Sefc, K.M., Aibara, M., Stipacek, M., Blanc, M., Egger, B. and Sturmbauer, C. 2007. Reticulate phylogeny of gastropod-shell-breeding cichlids from Lake Tanganyika – the result of repeated introgressive hybridization. *BMC Evolutionary Biology* **7**:7.
- Koblmüller, S., Salzburger, W. and Sturmbauer, C. 2004. Evolutionary relationships in the sand dwelling cichlid lineage of Lake Tanganyika suggest multiple colonization of rocky habitats and convergent origin of biparental mouthbrooding. *Journal of Molecular Evolution* **58**:79-96.
- Lowe-McConnell, R. 2003. Recent research in the African Great Lakes: fisheries, biodiversity and cichlid evolution. *Freshwater Forum* **20**:1-64.
- Marijnissen, S.A.E. 2007. "Lake Tanganyika crabs: Evolution, Ecology, and Implications for Conservation." Ph.D dissertation, University of Amsterdam, the Netherlands, pp.1-188.
- Marijnissen, S.A.E., Schram, F.R., Cumberlidge, N. and Michel, E. 2004. Two new species of *Platythelphusa* A Milne Edwards, 1887 (Decapoda, Potamoidea, *Platythelphusidae*) from Lake Tanganyika, East Africa with comments on the taxonomic position of *P. denticulata* Capart, 1952. *Crustaceana* **77**:513-532.
- Marijnissen, S.A.E., Michel, E., Daniels, S. R., Erpenbeck, D., Menken, S.B.J. and Schram, F. R. 2006. Molecular evidence for recent divergence of Lake Tanganyika endemic crabs (Decapoda: Platythelphusidae). *Molecular Phylogenetics and Evolution* **40**:628-634.
- Marijnissen, S.A.E., Michel, E., Kamermans, M., Bosch, K., Kars, M., Cleary, D.F.R., Loon, V., Rachello E.E., Domen, P.G. and Menken, S.B.J. 2008. Exploring ecological correlates of species differences in the Lake Tanganyika crab radiation. *Hydrobiologia* **615**:81-94
- Marijnissen, S.A.E., Michel, E., Cleary, D.F.R. and McIntyre, P.B. 2009. Ecology and conservation status of the endemic freshwater crabs of Lake Tanganyika, Africa. *Biodiversity and Conservation* **18**:1555-1573
- McIntyre, P.B., Michel, E., France, K., Rivers, A., Hakizimana, P. and Cohen, A. S. 2004. Individual- and assemblage-level effects of anthropogenic sedimentation on snails in Lake Tanganyika. *Conservation Biology* **19**:171-181.
- Moore, J.E.S. 1903. *The Tanganyika problem: an account of the researches undertaken concerning the existence of marine animals in Central Africa*. London, Hurst and Blackett, pp.xxiv-371.
- Schluter, D. 2000. *The ecology of adaptive radiation*. Oxford University Press, Oxford, NY, USA, pp.1-288.
- Smart, A.C., Harper, D.M., Malaisse, F., Schmitz, S., Coley, S. and Gouder de Beauregard, A.C. 2002. Feeding of the exotic Louisiana red swamp crayfish, *Procambarus clarkii* (Crustacea, Decapoda), in an African tropical lake: Lake Naivasha, Kenya. *Hydrobiologia* **488**:129-142.
- Snyder, W.E. and Evans, E.W. 2006. Ecological effects of invasive arthropod generalist predators. *Annual Review of Ecology, Evolution, and Systematics* **37**:95-122.

Chapter 6 - Spotlight on species - The East African Tree Hole Crab – spectacular adaptation

- Cumberlidge, N. and Vannini, M. 2004. A new species of tree-hole living freshwater crab (Brachyura: Potamoidea: Potamonautidae) from coastal East Africa. *Journal of Natural History* **38**:681-693.
- Bayliss, J. 2002. The East Usambara tree-hole crab (Brachyura: Potamoidea: Potamonautidae) – a striking example of crustacean adaptation in closed canopy forest, Tanzania. *African Journal of Ecology*, **40**,1,26-34.

Chapter 7 References

- Alimini, T. and Akinyeminju, O.A. 1990. An economic analysis of water hyacinth control methods in Nigeria. *Journal of Aquatic Plants Management* **28**:106-107.
- AGRA. 2010. Strategy for an African Green Revolution 2010. Available at: www.agra-alliance.org [Accessed 30/09/10].
- AZE. 2010. *2010 AZE Update*. Available at: www.zeroextinction.org [Accessed 02/01/11].
- Beentje, H.J. and Smith, S. 2001. FTEA and after. *Systematics and Geography of Plants* **71**(2): 265-290.
- Beentje, H.J., Adams, B. and Davis, S.D. 1994. Regional overview: Africa. In: S.D. Davis, V.H. Heywood and A.C. Hamilton (eds.). *Centres of Plant Diversity. A guide and strategy for their conservation. Vol. 1-3*. IUCN Publications Unit, Cambridge.

- Bennett, A.F. 2003. *Linkages in the Landscape: The Role of Corridors and Connectivity in Wildlife Conservation* (Second Edition). IUCN, Gland, Switzerland and Cambridge, UK.
- Boyd, C., Brooks M.T, Butchart, S.H.M., Edgar, G.J., da Fonseca, G.A.B., Hawkins, F., Hoffmann, M., Sechrest, W., Stuart S.N. and van Dijk, P. 2007. Spatial scale and the conservation of threatened species. *Conservation Letters* **1**: 37–43.
- Brooks, E.G.E., Allen, D.J., and Darwall, W. (compilers). 2011. *The Status and Distribution of Freshwater Biodiversity in Central Africa*. Gland, Switzerland and Cambridge, UK: IUCN.
- Bunn, S.E. and Arthington A.H. 2002. Basic Principles and Ecological Consequences of altered Flow Regimes for Aquatic Biodiversity. *Environmental Management* **30**(4):492-507.
- Chambers P.A., Lacoul, P., Murphy, K.J., Thomaz, S.M. 2008. Global diversity of aquatic macrophytes in freshwater. *Hydrobiologia* **595**(1):9-26
- Chapman, A.D. 2009. *Numbers of Living Species in Australia and the World*, 2nd edition. Australian Biological Resources Study, Canberra.
- Conservation International. 2010. *Securing water and food in Miombo-mupanewoodland, southern Africa*. Conservation International. Available at: http://www.conservation.org/explore/africa_madagascar/Pages/miombo-mopane_southern_africa.aspx. [Accessed 15/12/10].
- Cook, C.D.K. 1996. *Aquatic Plant Book*. The Hague: SPB Academic Publishing. Amsterdam, The Netherlands.
- Cook, C.D.K. 2004. *Aquatic and wetland plants of Southern Africa*. Backhuys, Leiden.
- Darwall, W., Smith, K., Lowe, T. and Vié, J.-C. 2005. *The Status and Distribution of Freshwater Biodiversity in Eastern Africa*. IUCN SSC Freshwater Biodiversity Assessment Programme. IUCN, Gland, Switzerland and Cambridge, UK.
- Darwall, W.R.T., Smith, K.G., Tweddle, D. and Skelton, P. (eds.) (2009). *The Status and Distribution of Freshwater Biodiversity in Southern Africa*. Gland, Switzerland: IUCN and Grahamstown, South Africa: SAIAB.
- Donkor, S.M.K. and Wolde, Y.E. 1998. *Africa: Some problems and Constraints in Integrated Water Resources Management in Africa*. Addis Ababa, Ethiopia: United Nations Economic Commission for Africa.
- ECOWAS. 1994. Lutte contre les végétaux flottants dans les pays de la CEDEAO. Rapport préliminaire, Sept 1994. Economic Commission of West African States.
- Forman, R.T.T. 1995. *Land Mosaics. The ecology of landscapes and regions*. Cambridge, UK: Cambridge University Press.
- Garcia, N., Cuttelod, A. and Abdul Malak, D. (eds.) (2010). *The Status and Distribution of Freshwater Biodiversity in Northern Africa*. Gland, Switzerland, Cambridge, UK, and Malaga, Spain: IUCN.
- Ghogue J.-P. 2011. The freshwater plants of Central Africa. In: E.G.E Brooks, D.J. Allen and W. Darwall (compilers). *The Status and Distribution of Freshwater Biodiversity in Central Africa*. Gland, Switzerland and Cambridge, UK: IUCN.
- IUCN. 2003. *Guidelines for Application of IUCN Red List Criteria at Regional Levels: Version 3.0*. IUCN Species Survival Commission. IUCN, Gland, Switzerland and Cambridge, UK.
- Kier, G., Mutke, J., Dinerstein, E., Ricketts T.E., Kuper, W., Kreft, H. and Barthlott, W. 2005. Global patterns of plant diversity and floristic knowledge. *Journal of Biogeography* **32**:1107-1116.
- Kuper, W., Sommer J.H., Lovett, J.C., Mutke, J., Linder, H.P., Beentje, H.J., Van Rompaey, R.S.A.R., Chatelain, C., Sosef, M. and Barthlott, W. 2004. Africa's Hotspots of Biodiversity Redefined. *Annals of the Missouri Botanical Garden* **91**(4):525-535.
- Linder. H.P. 2001. Plant Diversity and Endemism in Sub-Saharan Tropical Africa. *Journal of Biogeography* **28**(2): Special Issue: *Historical Biogeography and Patterns of Diversity*.
- Millennium Ecosystem Assessment. 2005. *Ecosystems and human well-being: Wetlands and Water Synthesis*. World Resources Institute, Washington, DC.
- Moran, V.C., Hoffmann, J.H., and Zimmermann, H.G. 2005. Biological control of invasive alien plants in South Africa: necessity, circumspection, and success. *Frontiers in Ecology and the Environment*. **3**:71–77.
- Mutke, J. and Barthlott, W. 2005. Patterns of vascular plant diversity at a continental to global scales. *Biologische Skrifter* **55**:521-531
- Myers, N., Mittermeier, R.A., Mittermeier C.G., da Fonseca G.A.B and Kent, J. 2000. Biodiversity hotspots for conservation priorities. *Nature* **403**:853-858.
- Nellemann, C. and Corcoran, E. (eds.) 2010. *Dead Planet, Living Planet – Biodiversity and Ecosystem Restoration for Sustainable Development*. A Rapid Response Assessment. United Nations Environment Programme, GRID-Arendal.
- Nyenje, P.M., Foppen, J.W., Uhlenbrook, S., Kulabako, R., Muwanga, A. 2009. Eutrophication and nutrient release in urban areas of sub-Saharan Africa – A review. *Science of the Total Environment* **408**(3):447-455.
- Philbrick, C.T. and Novelo, A. 2004. *Monograph of Podostemum* (Podostemaceae). *Systematic Botany Monographs* **70**:1-106.
- Pollard, S. R., Kotze, D. C. and Ferrari, G. 2008. Valuation of the livelihood benefits of structural rehabilitation interventions in the Manalana Wetland. In: D.C. Kotze and W.N. Ellery. *WET-Outcome Evaluate: An evaluation of the rehabilitation outcomes at six wetland sites in South Africa*. WRC Report No. TT 343/08. Water Research Commission, Pretoria.
- Rhazi, L. and Grillas, P. 2010. Status and distribution of aquatic plants. In: N. Garcia, A. Cuttelod and D. Abdul Malak (eds.). *The Status and Distribution of Freshwater Biodiversity in Northern Africa*. Gland, Switzerland, Cambridge, UK, and Malaga, Spain: IUCN.

- Ricketts, T.H. 2005. Pinpointing and preventing imminent extinctions. *Proceedings of the National Academy of Sciences* **51**:18497-18501
- Riddell, P.J., Westlake, M. and Burke, J. 2006. *Demand for products of irrigated agriculture in sub-Saharan Africa*. FAO Water Reports 31. Rome: Food and Agriculture Organization of the United Nations.
- RBG. 2010. *Plants under pressure – a global assessment. The first report of the IUCN Sampled Red List Index for Plants*. Royal Botanic Gardens - Kew, UK. 16pp.
- Sieben, E.J.J. 2009. The status and distribution of vascular plants (Magnoliophyta, Lycopphyta, Pteridophyta). In: W.R.T. Darwall, K.G. Smith, D. Tweddle and P. Skelton (eds.) *The Status and Distribution of Freshwater Biodiversity in Southern Africa*. Gland, Switzerland: IUCN and Grahamstown, South Africa: SAIAB.
- Smith, K.G., Diop, M.D., Niane, M. and Darwall, W.R.T. (compilers). 2009. *The Status and Distribution of Freshwater Biodiversity in Western Africa*. Gland, Switzerland and Cambridge, UK: IUCN.
- Timberlake, J.R., Drummond, R.B., Smith, P. and Bingham, M.G. 2000. Wetland plants of the Zambezi Basin. In: J.R. Timberlake (ed.). *Biodiversity of the Zambezi Basin Wetlands* **2**:31-81. Occasional Publications in Biodiversity No.8. BFA/Zambezi Society, Bulawayo, Zimbabwe.
- TEEB. 2009. The Economics of Ecosystems and Biodiversity for National and International Policy Makers. Chapter 9: Investing in ecological infrastructure. The Economics of Ecosystems and Biodiversity. Available at: <http://www.teebweb.org/LinkClick.aspx?fileticket=9NUqtj b3bo%3d&tabid=1019&language=en-US> [Accessed 15/11/10].
- Thieme, M.L., Abell, R., Stiansny, M.L., Skelton P., Lehner, B., Teugels, G.G., Dinerstein, E., Toham, A.K., Burgess, N. and Olson, D. 2005. *Freshwater Ecoregions of Africa and Madagascar. A Conservation Assessment*. World Wildlife Fund, USA.
- UNDESA. 2010. *The Millennium Development Goals Report*. United Nations Department of Economic and Social Affairs (DESA). New York.
- Valencia, R., Pitman, N., Leon-Yanez, S. and Jorgesen, P.M. 2000. *Libro Rojo de las Plantas Endemicas del Ecuador 2000*. Publicaciones del Herbario QCA, Pontificia Universidad Catolica del Ecuador. Quito, Ecuador.
- Vié, J.-C. Hilton-Taylor, C., and Stuart, S.N. (eds.) 2009. *Wildlife in a Changing World – An analysis of the 2008 IUCN Red List of Threatened Species*. Gland, Switzerland. IUCN.
- WHO/UNICEF. 2000. *Global Water supply and sanitation assessment report assessment 2000 report*. World Health Organization and United Nations Children's Fund.
- White, F. 1983. *The vegetation of Africa*. UNESCO, Switzerland.
- White, F. 1993. The AETFAT chorological classification of Africa: history, methods and applications. *Bulletin du Jardin Botanique National de Belgique* **62**:225-281

Chapter 7 - Spotlight on species - A small wonder of nature saved from extinction

- Fischer, E. 1993. Taxonomic results of the BRYOTROP- Expedition to Zaire and Rwanda. *Tropical Bryology* **8**: 13-37.

Chapter 7 - Spotlight on species - Water hyacinth, a threat to the freshwater biodiversity of western Africa

- ECOWAS. 1994. Lutte contre les végétaux flottants dans les pays de la CEDEAO. Rapport préliminaire, Sept 1994. Economic Commission of West African States.
- Lebrun, J. 1959. Un "péril vert" au Congo: La jacinthe d'eau. *Belgique d'Outre Mer*, **287**: 88-90.
- NAS. 1976. Making Aquatic weeds useful: Some perspectives for Developing Countries. Washington, DC. 171 p.
- Ouedraogo, R.L. 1996. La propagation de *Eichhornia crassipes* (Mart.) Solms Laub., ou jacinthe d'eau, une menace pour l'environnement, *Actes du Forum National de la Recherche et des Innovations Technologiques/ CNRST/DIST* **2**:106-110.
- Ouedraogo, R. L., Dabire, R., Ouedraogo, O., Belem, M., Coulibaly, N.D. 2004. Problématique du contrôle de *Eichhornia crassipes* (Mart.) Solms Laub. ou Jacinthe d'eau dans les pays du Sahel. *Actes du Forum National de la Recherche et des Innovations Technologiques – CNRST/DIST*. **6**.

Chapter 8 References

- Abban, E.K. 2007. A rapid assessment of fishes in the Atewa Range Forest Reserve, Ghana. In: J. McCullough, L.E. Alonso, P. Naskrecki, H.E. Wright and Y. Osei-Owusu (eds.), A rapid biological assessment of the Atewa Range Forest Reserve, Eastern Ghana. *RAP Bulletin of Biological Assessment* **47**:69-75. Conservation International. Arlington, VA.
- Abban, E.K. 2008. A rapid survey of the fishes of Ajenjua Bepo and Manang River Forest Reserves, Eastern Region of Ghana. In: J. McCullough, P. Hoke, P. Naskrecki and Y. Osei-Owusu (eds.), A rapid biological assessment of the Ajenjua Bepo and Mamang River Forest Reserves, Ghana. *RAP Bulletin of Biological Assessment* **50**:43-45. Conservation International. Arlington, VA.
- Abell, R., Thieme, M., Revenga, C., Bryer, M., Kottelat, M., Bogutskaya, N., Coad, B., Mandrak, N., Balderas, S. and Bussing, W. 2008. Freshwater ecoregions of the world: a new map of biogeographic units for freshwater biodiversity conservation. *BioScience* **58**:403-414.
- Allan, J.D. 2004. Landscapes and Riverscapes: The Influence of Land Use on Stream Ecosystems. *Annual Review of Ecology, Evolution, and Systematics* **35**: 257-284.
- Allan, J.D., Abell, R., Hogan, Z., Revenga, C., Taylor, B.W., Welcomme, R.L. and Winemiller, K. 2005. Overfishing of Inland Waters. *BioScience* **55**:1041.
- Appleton, C.C., Curtis, B.A., Alonso, L.E. and Kipping, J. 2003. Freshwater invertebrates of the Okavango Delta, Botswana. In: L.E. Alonso and L. Nordin (eds.), A rapid

- biological assessment of the aquatic ecosystems of the Okavango Delta, Botswana: High water survey. *RAP Bulletin of Biological Assessment* **27**:58–68, 123–139. Conservation International. Washington, D.C.
- Appleton, C.C., Ellery, W.N., Byskov, J. and Mogkweetsinyana, S.S.. 2008. Epidemic transmission of intestinal schistosomiasis in the seasonal part of the Okavango Delta, Botswana. *Annals of Tropical Medicine and Parasitology* **102**(7):611–623.
- Barrett, J.H., Locker, A.M. and Roberts, C.M. 2004. The origins of intensive marine fishing in medieval Europe: the English evidence. *Proceedings of the Royal Society B*. **271**:2417–2421.
- Beadle, L.C. 1981. *The inland waters of tropical Africa*. Longman Group Limited, London, UK.
- Béné, C., Steel, E., Luadia, B.K. and Gordon, A. 2009. Fish as the “bank in the water” – Evidence from chronic-poor communities in Congo. *Food Policy* **34**(1):108–118
- Bicknell, J. and Chin, C. 2007. Aquarium fisheries as a non-timber forest product: experiences from conservation through community development in North Rupununi District, Guyana. *Conservation Evidence* **4**:94–98.
- Bjørke, S.A. 2002. Vital climate graphics Africa: aridity zones. Available from: <http://www.grida.no/climate/vitalafrica/english/25.htm>. Accessed July 2009.
- Brainerd, T.R. 1995. Socioeconomic Research Needs for Fisheries and Aquaculture in Africa. In: J.H. Arnala (ed.), *Fisheries and Aquaculture Research Planning Needs for Africa and West Asia*, pp.59–60. International Centre for Living Aquatic Resources Management.
- Brooks, T.M., Bakarr, M.I., Boucher, T., da Fonseca, G.A.B., Hilton-Taylor, C., Hoekstra, J.M., Moritz, T., Olivieri, S., Parrish, J., Pressey, R.L., Rodrigues, A.S.L., Sechrest, W., Stattersfield, A., Strahm, W. and Stuart, S.N. 2004. Coverage Provided by the Global Protected-Area System: Is It Enough? *BioScience* **54**:1081.
- Brooks, E.G.E., Allen, D.J. and Darwall, W.R.T. 2011. The status and distribution of freshwater biodiversity in central Africa. IUCN, Gland, Switzerland and Cambridge, UK.
- Brown, D. 1994. *Freshwater snails of Africa and their medical importance*. Taylor & Francis, London.
- Christensen, N.L., Bartuska, A.M., Brown, J.H., Carpenter, S., D’Antonio, C., Francis, R., Franklin, J.F., MacMahon, J.A., Noss, R.F., Parsons, D.J., Peterson, C.H., Turner, M.G., Woodmansee, R.G. 1996. The report of the Ecological Society of America Committee on the Scientific Basis for Ecosystem Management. *Ecological Applications* **6**(3):665–691.
- Cohen, A., Lezzar, K., Cole, J., Dettman, D., Ellis, G., Gonneea, M., Plisnier, P., Langenberg, V., Blaauw, M. and Zilifi, D. 2006. Late Holocene linkages between decade-century scale climate variability and productivity at Lake Tanganyika, Africa. *Journal of Paleolimnology* **36**:189–209.
- Conway, D., Persechino, A., Ardoin-Bardin, S., Hamandawana, H., Dieulin, C. and Mahe, G. 2008. *Rainfall and water resources variability in sub-Saharan Africa during the 20th century*. Tyndall Working Paper No. 119. Norwich, UK: Tyndall Centre for Climate Change Research. 37 pp.
- Conway, D., Allison, E., Felstead, R. and Goulden M. 2005. Rainfall variability in East Africa: implications for natural resources management and livelihoods. *Philosophical Transactions of the Royal Society A* **363**:49–54.
- Cumberlidge, N. 2006. A rapid survey of the decapods crustaceans of the Boké Prefecture, Guinea. In: H.E. Wright, J. McCullough and M.S. Diallo (eds.), A rapid biological assessment of Boké Prefecture, Northwestern Guinea. *RAP Bulletin of Biological Assessment* **41**:38–46, 168–175 Conservation International. Washington, D.C.
- Cumberlidge, N., Ng, P.K., Yeo, D.C.J., Magalhães, C., Campos, M.R., Alvarez, F., Naruse, T., Daniel, S.R., Esser, L.J., Attipoe, F.Y.K., Clotilde-Ba, F.-L., Darwall, W., Mcivor, A., Baillie, J.E.M., Collen, B. and Ram, M. 2009. Freshwater crabs and the biodiversity crisis: importance, threats, status, and conservation challenges. *Biological Conservation* **142**:1665–1673.
- Cushing, C.E., Cummins, K.W. and Minshall, G.W. (eds.), 1995. *River and stream ecosystems of the world*. Berkeley, CA: University of California Press.
- De Wit, M., and Stankiewicz, J. 2006. Changes in surface water supply across Africa with predicted climate change. *Science* **311**:1917–1921.
- Dijkstra, K.D.B. 2007a. Dragonflies and damselflies (Odonata) of Lokutu. In: T.M. Butynski and J. McCullough (eds.). A rapid biological assessment of Lokutu, Democratic Republic of Congo. *RAP Bulletin of Biological Assessment* **46**:21–36. Conservation International, Arlington, VA, USA.
- Dijkstra, K.D.B. 2007b. Rapid survey of dragonflies and damselflies (Odonata) of North Lorma, Gola and Grebo National Forests, Liberia. In: P. Hoke, R. Demey and A. Peal (eds.), Biological Assessment of North Lorma, Gola and Grebo National Forests, Liberia. *RAP Bulletin of Biological Assessment* **44**:25–28, 79–85 Conservation International. Arlington, VA.
- Dijkstra, K.D.B. 2007c. Dragonflies and damselflies (Odonata) of the Atewa Range, Ghana. In: J. McCullough, L.E. Alonso, P. Naskrecki, H.E. Wright and Y. Osei-Owusu (eds.), A rapid biological assessment of the Atewa Range Forest Reserve, Eastern Ghana. *RAP Bulletin of Biological Assessment* **47**: 50–54, 137–142. Conservation International. Arlington, VA.
- Dudgeon, D., Arthington, A.H., Gessner, M.O., Kawabata, Z.-I., Knowler, D.J., Lévêque, C., Naiman, R.J., Prieur-Richard, A.-H., Soto, D., Stiassny, M.L.J. & Sullivan, C.A. 2006. Freshwater biodiversity :importance, threats, status and conservation challenges. *Biological Reviews* **81**:163–82.
- Dudley, N. 2008. Guideline for applying Protected Area management Categories. Gland, Switzerland: IUCN. x+86pp
- Dugan, P., Delaporte, A., Andrew, N., O’Keefe, M. and Welcomme, R. 2010. *Blue Harvest: Inland Fisheries as an Ecosystem Service*. Penang, Malaysia.

- Dupont, L., Behling, H. and Kim, J. 2008. Thirty thousand years of vegetation development and climate change in Angola (Ocean Drilling Program Site 1078). *Climate of the Past* **4**:107–124.
- Eggermont, H., Verschuren, D., Audenaert, L., Lens, L., Russell, J., Klaassen, G. and Heiri, O. 2010. Limnological and ecological sensitivity of Rwenzori mountain lakes to climate warming. *Hydrobiologia* **648**:123–142.
- Elmer, K.R., Reggio, C., Wirth, T., Verheyen, E., Salzburger, W. and Meyer, A. 2009. Pleistocene desiccation in East Africa bottlenecked but did not extirpate the adaptive radiation of Lake Victoria haplochromine cichlid fishes. *Proceedings of the National Academy of Sciences of the United States of America* **106**:13404–13409.
- FAO. 1995. Irrigation in Africa in figures. FAO, Rome, Italy.
- FAO 2008. The State of World Fisheries and Aquaculture. FAO, Rome.
- FishStat 2010. Food and Agriculture Organization (FAO) FISHSTAT Capture Fisheries and Production and Trade Databases 1950–2008.
- Foster, J. and Harper, D. 2007. Status and ecosystem interactions of the invasive Louisiana red swamp crayfish *Procambarus clarkii* in East Africa. In: F. Gherardi (ed.). Biological invaders in inland waters: profiles, distribution and threats pp.91-101 Springer Series in Invasion Ecology, 2, 731 pp.
- Freeman, S. 2007. Newly emerging water regime indicators for promoting green water management, unpublished Masters Thesis, Tufts University, College of Engineering, Medford, Massachusetts.
- Gasse, F. 2000. Hydrological changes in the African tropics since the Last Glacial Maximum. *Quaternary Science Reviews* **19**:189–211.
- Gaston, K.J., Blackburn, T.M. and Spicer, J.I. 1998. Rapoport's rule: time for an epitaph? *Trends in Ecology and Evolution* **13**:70–74.
- Gaston, K.J. *et al.* 2008. The Ecological Performance of Protected Areas. *Annual Review of Ecology Evolution and Systematics* **39**:93–113.
- Geist, H.J. & Lambin, E.F. 2002. Proximate Causes and Underlying Driving Forces of Tropical Deforestation. *BioScience* **52**:143.
- Gergis, J. and Fowler, A. 2009. A history of ENSO events since A.D. 1525: implications for future climate change. *Climatic Change* **92**:343–387.
- Grey, D. and Sadoff, C. 2007. Sink or Swim? Water security for growth and development. *Water Policy* **9**:545–571.
- Ghogue J.-P. 2011. The freshwater plants of Central Africa. In: E.G.E. Brooks, D.J. Allen and W. Darwall (compilers), 2011. The Status and Distribution of Freshwater Biodiversity in Central Africa. Gland, Switzerland and Cambridge, UK: IUCN.
- Gourène, G., Ouattara, A. and Mosepele, B. 2005. Evaluation rapide de l'ichtyofaune et de paramètres physico-chimiques des hydrosystèmes des Forêts Classées de la Haute Dodo et du Cavally. In: L.E. Alonso, F. Lauginie and G. Rondeau (eds.), A rapid biological assessment of two classified forests in South-western Côte d'Ivoire. *RAP Bulletin of Biological Assessment* **34**: 57–66. Conservation International. Washington, D.C.
- Hecky, R., Bootsma, H. and Odada, E. 2006. African lake management initiatives: The global connection. *Lakes & Reservoirs: Research and Management* **11**:203–213.
- Hecky, R., Mugidde, R., Ramlal, P., Talbot, M. and Kling, G. 2010. Multiple stressors cause rapid ecosystem change in Lake Victoria. *Freshwater Biology* **55**:19–42.
- Hill, G., Cock, M. and Howard G.W. 1999. Water Hyacinth, its control and utilization. A global review. Report prepared for SIDA under the Lake Victoria Initiative, 54pp.
- Holmgren, K., Lee-Thorp, J., Cooper, G., Lundblad, K., Partridge, T., Scott, L., Sthaldeen, R., Siep Talma, A. and Tyson, P. 2003. Persistent millennial-scale climatic variability over the past 25,000 years in Southern Africa. *Quaternary Science Reviews* **22**:2311–2326.
- Howard, G.W. and Harley, K.L.S. 1998. How do floating aquatic weeds affect wetland conservation and development? How can these effects be minimized? *Wetlands Ecology and Management* **5**:215–225.
- Howard, G.W. and Matindi, S.W. 2003. Alien invasive species in Africa's wetlands. Some threats and solutions. IUCN Eastern Africa Regional Programme, Nairobi, Kenya, 16 pp. (also available in French).
- IPCC. 2007. *Climate Change 2007: Impacts, Adaptation, and Vulnerability*. M. Parry, O. Canziani, J. Palutikoff, P. van der Linden, C. Hanson (eds.). Cambridge University Press, Cambridge, UK.
- IPCC. 2008. *Climate change and water*. B. Bates, Z. Kundzewicz, S. Wu, and J. Palutikoff (eds.). Technical Paper of the Intergovernmental Panel on Climate Change, IPCC Secretariat, Geneva, 210 pp.
- IUCN and UNEP-WCMC. 2010. The World Database on Protected Areas (WDPA): Annual Release [Online].
- Issar, A.S. 2003. *Climate changes during the Holocene and their impact on hydrological systems*. Cambridge, UK: Cambridge University Press.
- Joppa, L.N. and Pfaff, A. 2009. High and far: biases in the location of protected areas. *PLoS One*, **4**:e8273.
- Kapuscinski, A.R. and Patronski, T.J. 2005. Genetic methods for biological control of non-native fish in the Gila River Basin. Contract report to U.S. Fish and Wildlife Service, University of Minnesota, Institute for Social, Economic and Ecological Sustainability, St. Paul, MN, USA, 103pp.
- Kiage, L. and Liu, K. 2006. Late Quaternary paleoenvironmental changes in East Africa: a review of multiproxy evidence from palynology, lake sediments, and associated records. *Progress in Physical Geography* **30**:633–658.
- Kropelin, S., Verschuren, D., Lezine, A., Eggermont, H., Cocquyt, C., Francus, P., Cazet, J., Fagot, M., Rumes, B., Russell, J., Darius, F., Conley, D., Schuster, M., Von Suchodoletz, H. and Engstrom, D. 2008. Climate-Driven Ecosystem Succession in the Sahara: The Past 6000 Years. *Science* **320**:765–768.
- Kura, Y., Revenga, C., Hoshino, E. and Mock, G. 2004. Fishing for Answers. World Resources Institute, Washington D.C., USA.

- Langhammer, P.F., Bakarr, M.I., Bennun, L.A., Brooks, T.M., Clay, R.P., Darwall, W., Silva, N.D., Edgar, G.J., Fishpool, L.D.C. and Foster, M.N. 2007. Identification and Gap Analysis of Key Biodiversity Areas. IUCN, Gland, Switzerland.
- Le Quesne, T., Matthews, J.H., et al. 2010. *Flowing forward: A climate-resilient methodology for sustainable water resource management*. Washington, DC: World Bank.
- Lévêque, C. 1997. *Biodiversity dynamics and conservation: The freshwater fish of tropical Africa*. Cambridge University Press, Cambridge, UK.
- Lundberg, J.G., Kottelat, M., Smith, G.R., Stiassny, M.L.J. and Gill, A.C. 2000. So many fishes, so little time: an overview of recent ichthyological discoveries in freshwaters. *Annals of the Missouri Botanical Gardens* **87(1)**: 26–62.
- McIntyre, P.B., Jones, L.E., Flecker, A.S. and Vanni, M.J. 2007. Fish extinctions alter nutrient recycling in tropical freshwaters. *Proceedings of the National Academy of Sciences of the United States of America* **104(11)**:4461–4466.
- Marchant, R., and Hooghiemstra, H. 2004. Rapid environmental change in African and South American tropics around 4000 years before present: a review. *Earth-Science Reviews* **66**:217–260.
- Marshall, B., Ezekiel, C., Gichuki, J., Mkumbo, O., Sitoki, L. and Wanda, F. 2009. Global warming is reducing thermal stability and mitigating the effects of eutrophication in Lake Victoria (East Africa). Available from *Nature Proceedings* <http://hdl.handle.net/10101/npre.2009.3726.1>
- Matthews, J.H. 2010. Anthropogenic climate change impacts on ponds: a thermal mass perspective. *BioRisk* **5**:1–17.
- Matthews, J.H. and Wickel, A.J. 2009. Embracing uncertainty in freshwater climate change adaptation: a natural history approach. *Climate and Development* **1**:3–7.
- Millenium Ecosystem Assessment 2005. *Ecosystems and Human Well-Being: Current State and Trends*. World Resource Institute, Washington, D.C., USA.
- Milly, P., Betancourt, J., Falkenmark, M., Hirsch, R., Kundzewicz, Z., Lettenmaier, D. and Stouffer, R. 2008. Stationarity is dead: whither water management? *Science* **319**:573–574.
- Neiland, A.E. & Béné, C. 2008. Tropical river fisheries valuation: background papers to a global synthesis. The WorldFish Center Studies and Reviews 1836. Penang, Malaysia.
- Nel, J.L., Roux, D.J., Maree, G., Kleynhans, C.J., Moolman, J., Reyers, B., Rouget, M. & Cowling, R.M. 2007. Rivers in peril inside and outside protected areas : a systematic approach to conservation assessment of river ecosystems. *Diversity and Distributions* **13**:341-352.
- Nicholson, S. 2000. The nature of rainfall variability over Africa on time scales of decades to millennia. *Global and Planetary Change* **26**:137–158.
- Nihoul, J., Zavialov, P. and Micklin, P. (eds.), 2004. *Dying and dead seas: climatic versus anthropic causes*. NATO Science Series IV: Earth and Environmental Sciences Vol. 36. Liège, Belgium: Kluwer Academic Publishers.
- O'Reilly, C., Alin, S., Plisnier, P., Cohen, A. and McKee, B. 2003. Climate change decreases aquatic ecosystem productivity of Lake Tanganyika, Africa. *Nature* **424**:766–768.
- Parmesan, C. 2006. Ecological and evolutionary responses to recent climate change. *Annual Review of Ecology and Evolution* **37**:637–669.
- Poff, N.L. 2009. Managing for variation to sustain freshwater ecosystems. *Journal of Water Resources Planning and Management* **135**:1-4.
- Pople, W. 1966. Comparison of the Egeria fishery of the Sanaga River, Federal Republic of Cameroun with that in the Volta River, Ghana. University of Ghana Volta Basin Research Project. Technical Report.
- Richter, B.D., Postel, S., Revenga, C., Scudder, T., Lehner, B., Churchill, A. and Chow, M. 2010. Lost in Development's Shadow: The Downstream Consequence of Dams. *Water Alternatives* **3**:14–42.
- Sadoff, C., and Muller, M. 2009. *Water management, water security and climate change adaptation: early impacts and essential responses*. TEC Background Papers no. 14. Stockholm, Sweden: Global Water Partnership.
- Sadoff, C., Whittington, D. and Grey, D. 2003. *Africa's International Rivers: An Economic Perspective*. Washington, DC: The World Bank.
- Samman, J. and Amakye, J.S. 2008. Macroinvertebrate fauna in streams draining Ajenjua Bepo and Mamang River Forest Reserves, Eastern Region of Ghana. In: J. McCullough, P. Hoke, P. Naskrecki and Y. Osei-Owusu (eds.), *A rapid biological assessment of the Ajenjua Bepo and Mamang River Forest Reserves, Ghana. RAP Bulletin of Biological Assessment* **50**:40–42, 79–80. Conservation International. Arlington, VA
- Scholz, C., Johnson, T., Cohen, A., King, J., Peck, J., Overpeck, J., Talbot, M., Brown, E., Kalindekafu, L. and Amoako, P. 2007. East African megadroughts between 135 and 75 thousand years ago and bearing on early-modern human origins. *Proceedings of the National Academy of Sciences* **104**:16416.
- Shanahan, T., Overpeck, J., Scholz, C., Beck, J., Peck, J. and King, J. 2008. Abrupt changes in the water balance of tropical West Africa during the late Quaternary. *Journal of Geophysical Research* **113**:D12108.
- Shanungu, G.K. 2009. Management of the invasive *Mimosa pigra* L. in Lochinvar National Park, Zambia. *Biodiversity* **10**:56–60.
- Sieben, E.J.J. 2009. The status and distribution of vascular plants (Magnoliophyta, Lycopphyta, Pteridophyta). In: W.R.T. Darwall, K.G. Smith, D. Tweddle and P. Skelton (eds.), 2009. *The Status and Distribution of Freshwater Biodiversity in Southern Africa*. IUCN, Gland, Switzerland and SAIAB, Grahamstown, South Africa.
- Spinney, L. 2010. Dreampond revisited. A once-threatened population of African fish is now providing a view of evolution in action. *Nature* **466**:174–175

Stager, J.C. and Johnson, T.C. 2008. The late Pleistocene desiccation of Lake Victoria and the origin of its endemic biota. *Hydrobiologia* **596**:5–16.

Stone, J.R., Westover, K.S. and Cohen, A.S. *In press*. Late Pleistocene paleohydrography and diatom paleoecology of the central basin of Lake Malawi, Africa. *Palaeogeography, Palaeoclimatology, Palaeoecology*.

Thieme, M.L., Abell R.A., Stiassny M.L.J., *et al.* 2005. *Freshwater ecoregions of Africa: a conservation assessment*. Island Press, Washington, DC.

Thieme, M., Lehner, B., Abell, R. and Matthews, J.H. 2010. Exposure of Africa's freshwater biodiversity to a changing climate. *Conservation Letters* **3**:324–331.

Trusty, M. 2002. The benefits and risks of aquacultural production for the aquarium trade. *Aquaculture* **205**:203–219.

Tweddle, D., Bills, R., van der Waal, B., Skelton, P., Kolding, J. and Nengu, S. 2003. Fish diversity and fisheries in the Okavango Delta, Botswana. In: L.E. Alonso and L. Nordin (eds.), *A rapid biological assessment of the aquatic ecosystems of the Okavango Delta, Botswana: High water survey. RAP Bulletin of Biological Assessment* **27**:97–110, 210–245. Conservation International. Washington, D.C.

UNEP. 2005. *Hydropolitical Vulnerability and Resilience along International Waters: Africa*. Nairobi, Kenya: UNEP.

Verburg, P., and R. Hecky. 2009. The physics of the warming of Lake Tanganyika by climate change. *Limnology and Oceanography* **54**:2418–2430.

Verschuren, D. 2003. Lake-based climate reconstruction in Africa: progress and challenges. *Hydrobiologia* **500**:315–330.

Vörösmarty, C.J., Douglas, E.M., Green, P.A. and Revenga, C. 2005. Geospatial indicators of emerging water stress: an application in Africa. *Ambio* **34**(3):230–236.

Vörösmarty, C.J., McIntyre, P.B., Gessner, M.O., Dudgeon, D., Prusevich, A., Green, P., Glidden, S., Bunn, S.E., Sullivan, C.A., Liermann, C.R. and Davies, P.M. 2010. Global threats to human water security and river biodiversity. *Nature* **468**:334

Weijers, J.W.H., Schefuß, E., Stouten, S. and Damasté, J.S.S. 2007. Coupled thermal and hydrological evolution of tropical Africa over the last glaciation. *Science* **315**:1701–1704.

Wilby, R.L., Orr, H., Watts, G., Battarbee, R.W., Berry, P.M., Chadd, R., Dugdale, S.J., Dunbar, M.J., Elliott, J.A., Extence, C., Hannah, D.M., Holmes, N., Johnson, A.C., Knights, B., Milner, N.J., Ormerod, S.J., Solomon, D., Timlett, R., Whitehead, P.J., Wood, P.J. 2010. Evidence needed to manage freshwater ecosystems in a changing climate: Turning adaptation principles into practice. *Science of the Total Environment* **408**(19): 4150–4164

Wilson, B.W. and Garcia, C.A. 1992. Host specificity and biology of *Heteropsylla spinulosa* (Hom. Psyllidae) introduced into Australia and Western Samoa for the Biological Control of *Mimosa invisa*. *Entomophaga* **37**:293–299.

Chapter 9 References

Abell, R. 2002. Conservation biology for the biodiversity crisis: a freshwater follow-up. *Conservation Biology* **16**:1435–1437.

Abell, R., Allan, J.D. and Lehner, B. 2007. Unlocking the potential of protected areas for freshwaters. *Biological Conservation* **134**:48–63.

Abell, R., Thieme, M.L., Revenga, C., Bryer, M., Kottelat, M., Bogutskaya, N., Coad, B., Mandrak, N., Contreras Balderas, S., Bussing, W., Stiassny, M.L.J., Skelton, P., Allen, G.R., Unmack, P., Naseka, A., Ng, R., Sindorf, N., Robertson, J., Armijo, E., Higgins, J.V., Heibel, T.J., Wikramanake, E., Olson, D., Lopez, H.L., Reis, R.E., Lundberg, J.G., Sabaj Perez, M.H. and Petry, P. 2008. Freshwater ecoregions of the world: a new map of biogeographic units for freshwater biodiversity conservation. *BioScience* **58**:403–414.

Abell, R.A., Olson, D.M., Dinerstein, E., Hurlley, P.T., Diggs, J.T., Eichbaum, W., Walters, S., Wettengel, W.W., Allnutt, T., Loucks, C.J., and Hedao, P. 2000. *Freshwater Ecoregions of North America. A Conservation Assessment*. Island Press, Washington, D.C.

Abellan, P., Sanchez-Fernandez, D., Velasco, J. and Millan, A. 2007. Effectiveness of protected area networks in representing freshwater biodiversity: the case of a Mediterranean river basin (south-eastern Spain). *Aquatic Conservation: Marine and Freshwater Ecosystems* **17**:361–374.

Allan, J.D. and Flecker, A.S. 1993. Biodiversity conservation in running waters. *BioScience* **43**:32–43.

Angermeier, P.L. and Schlosser, I.J. 1989. Species-area relationship for stream fishes. *Ecology* **70**:1450–1462.

Angermeier, P.L. and Winston, M. 1997. Assessing conservation value of stream communities: a comparison of approaches based on centres of density and species richness. *Freshwater Biology* **37**(3):699–710.

Araujo, M.B. and Williams, P.H. 2001. The bias of complementarity hotspots toward marginal populations. *Conservation Biology* **15**:1710–1720.

Ausseil A.G.E., Dymond J. and Shepherd J. 2007. Rapid mapping and prioritisation of wetland sites in the Manawatu-Wanganui Region, New Zealand. *Environmental Management* **39**:316–325.

Ausseil, A.G.E., Chadderton, W.L., Gerbeaux, P., Stephens, R.T.T. and Leathwick, J.R. 2011. Applying systematic conservation planning principles to palustrine and inland saline wetlands of New Zealand. *Freshwater Biology* **56**:142–161.

Avise, J.C., Pierce, P.C., Van den Avyle, M.J., Smith, M.H., Nelson, W.S. and Asmussen, M.A. 1997. Cytonuclear introgressive swamping and species turnover of bass after an introduction. *Journal of Heredity* **88**:14–20.

Avise, J.C. 1990. Flocks of African fishes. *Nature* **347**:512–513.

Ball, I.R., Possingham, H.P. and Watts, M. 2009. Marxan and relatives: Software for spatial conservation prioritisation.

- In: A. Moilanen, K.A. Wilson and H.P. Possingham (eds.), *Spatial conservation prioritisation: Quantitative methods and computational tools*, pp.185–195 Oxford University Press, Oxford, UK.
- Bayley, P.B., Vasquez, R.P., Ghersi, F.P., Soini, P. and Pinedo, P.M. 1991. Environmental review of the Pacaya-Samiria National Reserve in Peru and assessment of project. The Nature Conservancy, Arlington, VA.
- Brooks, T., da Fonseca, G.A.B. and Rodrigues, A.S.L. 2004. Species, data, and conservation planning. *Conservation Biology* **18**:1682–1688.
- Cabeza, M. 2003. Habitat lost and connectivity of reserve networks in probability approaches to reserve design. *Ecological Letters* **6**:665–672.
- Carwardine, J., Wilson, K.A., Watts, M., Etter, A., Klein, C.J. and Possingham, H.P. 2008. Avoiding costly conservation mistakes: the importance of defining actions and cost in spatial prioritization setting. *PLoS One* **3**:e2586. doi:10.1371/journal.pone.0002586
- Clavero, M. and García-Berthou, E. 2006. Homogenization dynamics and introduction routes of invasive freshwater fish in the Iberian Peninsula. *Ecological Applications* **16**:2313–2324.
- Clavero, M., Blanco-Garrido, F. and Prenda, J. 2004. Fish fauna in Iberian Mediterranean river basins: biodiversity, introduced species and damming impacts. *Aquatic Conservation* **14**:575–585.
- Collares-Pereira, M.J. and Cowx, I.G. 2004. The role of catchment scale environmental management in freshwater fish conservation. *Fisheries Management and Ecology* **11**:303–312.
- Crivelli, A.J. 2002. The role of protected areas in freshwater fish conservation. In: M.J. Collares-Pereira, I.G. Cowx and M.M. Coelho (eds.), *Conservation of Freshwater Fishes: Options for the Future*, pp.373–388. Oxford: Fishing News Books, Blackwell Science.
- Daniels, R.R.J., Hegde, M., Joshi, N.V. and Gadgil, M. 1991. Assigning conservation value: A case study from India. *Conservation Biology* **5**:464–475.
- Darwall, W.R.T., Smith, K.G., Allen, D., Seddon, M.B., McGregor Reid, G., Clausnitzer, V. and Kalkman, V.J. 2010. Freshwater biodiversity: a hidden resource under threat. In: J.C. Vié, C. Hilton-Taylor and S.N. Stuart (eds.), *Wildlife in a changing world. An analysis of the 2008 IUCN Red List of Threatened Species*. Gland, Switzerland: IUCN.
- Dowling, T.E. and Childs, M.R. 1992 Impact of hybridization on a threatened trout of the southwestern United States. *Conservation Biology* **6**:355–364.
- Dudgeon, D., Arthington, A.H., Gessner, M.O., Kawabata, Z., Knowler, D.J., Lévêque, C., Naiman, R.J., Prieur-Richard, A.H., Soto, D., Stiassny, M.L.J. and Sullivan, C.A. 2006. Freshwater biodiversity: importance, threats, status and conservation challenges. *Biological Reviews* **81**:163–182.
- EFA. 2009. Environmental Impact Assessment Report. Environmental Impact Assessment of the proposed eradication of Invasive Alien Fishes from four river sections in the Cape Floristic Region. For: C.A.P.E. Biodiversity Conservation and Sustainable Development Project. EnviroFish Africa, Grahamstown, 116 pp + appendices.
- Esselman, P.C. and Allan, J.D. 2011. Application of species distribution models and conservation planning software to the design of a reserve network for the riverine fishes of northeastern Mesoamerica. *Freshwater Biology* **56**:71–88.
- Fausch, K.D., Torgersen, C.E., Baxter, C.V. and Li, H.W. 2002. Landscapes to riverscapes: bridging the gap between research and conservation of stream fishes. *BioScience* **52**:483–498.
- Ferrier, S. 2002. Mapping spatial pattern in biodiversity for regional conservation planning: where to from here? *Systematic Biology* **51**:331–363.
- Ferrier, S. and Guisan, A. 2006. Spatial modelling of biodiversity at the community level. *Journal of Applied Ecology* **43**:393–404.
- Ferrier, S., Manion, G., Elith, J. and Richardson, K. 2007. Using generalized dissimilarity modelling to analyse and predict patterns of beta diversity in regional biodiversity assessment. *Diversity and Distributions* **13**:252–264.
- Filipe, A.F., Marques, T.A., Seabra, S., Tiago, M.P., Ribeiro, F., Moreira da Costa, L., Cowx, I.G. and Collares-Pereira, M.J. 2004. Selection of priority areas for fish conservation in Guadiana River basin, Iberian Peninsula. *Conservation Biology* **18**:189–200.
- Fischer, D.T. and Church, R.L. 2003. Clustering and compactness in reserve site selection: An extension of the Biodiversity Management Area Selection model. *Forest Science* **49**:555–565.
- Fitzsimons, J.A., and Robertson, H.A. 2005. Freshwater reserves in Australia: directions and challenges for the development of a comprehensive, adequate and representative system of protected areas. *Hydrobiologia* **552**:87–97.
- Freitag, S., van Jaarsveld, A.S. and Biggs, H.C. 1997. Ranking priority biodiversity areas: An iterative conservation value-based approach. *Biological Conservation* **82**:263–272.
- Frissell, C.A., Liss, W.J., Warren, C.E. and Hurley, M.D. 1986. A hierarchical framework for stream habitat classification – viewing streams in a watershed context. *Environmental Management* **10**:199–214.
- Grumbine, R.E. 1994. What is Ecosystem Management? *Conservation Biology* **8**:27–38.
- Heiner, M., Higgins, J., Li, X. and Baker, B. 2011. Identifying freshwater conservation priorities in the Upper Yangtze River Basin. *Freshwater Biology* **56**:89–105.
- Hermoso, V., Linke, S., Prenda, J. and Possingham, H.P. 2011. Addressing longitudinal connectivity in the systematic conservation planning of fresh waters. *Freshwater Biology* **56**:57–70.
- Higgins, J.V., Ricketts, T.H., Parrish, J.D., Dinerstein, E., Powell, G., Palmintieri, S., Hoekstra, J.M., Morrisson, J., Tomasek, A. and Adams, J. 2004. Beyond Noah: saving species is not enough. *Conservation Biology* **18**:1672–1673.

- Higgins, J.V., Bryer, M.T., Khoury, M.L. and FitzHugh, T.W. 2005. A freshwater classification approach for biodiversity conservation planning. *Conservation Biology* **19**:432–445.
- Hynes, H.B.N. 1975. The stream and its valley. *Verhandlungen der Internationalen Vereinigung für Theoretische und Angewandte Limnologie* **19**:1–15.
- Impson, N.D., Marriot, M.S., Bills, I.R. and Skelton, P.H. 2007. Conservation biology and management of a Critically Endangered cyprinid, the Twee River redfin, *Barbus erubescens* (Teleostei: Cyprinidae), of the Cape Floristic Region, South Africa. *African Journal of Aquatic Science* **32**:27–33.
- Kennedy, C.R. 1993. Introductions, spread and colonization of new localities by fish helminth and crustacean parasites in the British Isles: a perspective and appraisal. *Journal of Fish Biology* **43**:287–301.
- Khoury, M.L., Higgins, J. and Weitzell, R.E. 2011. A conservation assessment of the Upper Mississippi River Basin in the central United States. *Freshwater Biology* **56**:162–179.
- Kirkpatrick, J.B. 1983. An iterative method for establishing priorities for the selection of nature reserves: an example from Tasmania. *Biological Conservation* **25**:127–134.
- Klein, C.J., Chan, A., Kircher, L., Cundiff, A.J., Gardner, N., Hrovat, Y., Scholz, A., Kendall, B.E. and Airame, S. 2008. Striking a balance between biodiversity conservation and socioeconomic viability in the design of marine protected areas. *Conservation Biology* **22**:691–700.
- Klein, C., Wilson, K., Watts, M., Stein, J., Berry, S., Carwardine, J., Stafford-Smith, M., Mackey, B. and Possingham, H. 2009. Incorporating ecological and evolutionary processes into continental scale conservation planning. *Ecological applications* **19**:206–217.
- Knight, R.L. 1999. Private lands: the neglected geography. *Conservation Biology* **13**:223–224.
- Lake, P.S. 1980. Conservation. In: W.D. Williams (ed.), *An ecological basis for water resource management*. Australian National University Press, Canberra.
- Lawler, J.J., White, D., Sifneos, J.C. and Master, L.L. 2003. Rare species and the use of indicator groups for conservation planning. *Conservation Biology* **17**:875–882.
- Leary, R.F., Allendorf, F.W. and Forbes, S.H. 1993. Conservation genetics of bull trout in the Columbia and Klamath River Drainages. *Conservation Biology* **7**:856–865.
- Linder, H.P., Johnson, S.D., Kuhlmann, M., Matthee, C.A., Nyffeler, R. and Swartz, E.R. 2010. Biotic diversity in the southern African winter-rainfall region. *Current Opinion in Environmental Sustainability* **2**:109–116.
- Linke S., Pressey R.L., Bailey R.C. and Norris R.H. 2007a. Management options for river conservation planning: condition and conservation re-visited. *Freshwater Biology* **52**:918–938.
- Linke, S., Watts, M.E. and Possingham, H.P. 2007b. Muddy waters: modifying reserve design algorithms for riverine landscapes. In: L. Oxley and D. Kulasiri (eds.), MODSIM 2007 International Congress on Modelling and Simulation, pp.2216–2222. Modelling and Simulation Society of Australia and New Zealand, Queenstown.
- Linke, S., Turak, E. and Nel, J. 2011. Freshwater conservation planning: the case for systematic approaches. *Freshwater Biology* **56**:6–20.
- Loiselle, B.A., Howell, C.A., Graham, C.H., Goerck, J.M., Brooks, T., Smith, K.G. and Williams, P.H. 2003. Avoiding pitfalls of using species distribution models in conservation planning. *Conservation Biology* **17**:1591–1600.
- Lombard, A.T., Cowling, R.M., Pressey, R.L. and Rebelo, A.G. 2003. Effectiveness of land classes as surrogates for species in conservation planning for the Cape Floristic Region. *Biological Conservation* **112**:45–62.
- Maitland, P.S. 1985. Criteria for the selection of important sites for freshwater fish in the British Isles. *Biological Conservation* **31**:335–353.
- Malmqvist, B. and Rundle, S. 2002. Threats to the running water ecosystems of the world. *Environmental Conservation* **29**:134–153.
- Margules, C.R. and Pressey, R.L. 2000. Systematic conservation planning. *Nature* **405**:243–253.
- Margules, C.R., Nicholls, A.O. and Pressey, R.L. 1988. Selecting networks of reserves to maximize biological diversity. *Biological Conservation* **43**:63–76.
- Margules, C.R., Pressey, R.L. and Williams, P.H. 2002. Representing biodiversity: data and procedures for identifying priority areas for conservation. *Journal of Biosciences* **27**:309–326.
- Moilanen, A., Leathwick, J. and Elith, J. 2008. A method for freshwater conservation prioritization. *Freshwater Biology* **53**:577–592.
- Moyle, P.B., and Sato, G.M. 1991. On the design of reserves to protect native fish. In: W.L. Minckley and J.L. Deacon (eds.), *Battle against extinction: native fish management in the American West*. The University of Arizona Press, Tucson, AZ.
- Mumba, M. and Howard, G. 2005. Invasive alien species in African freshwater ecosystems. In: M.L. Thieme, R. Abell, M.L.J. Stiassny, P. Skelton, B. Lehner, G.G. Teugels, E. Dinerstein, A.K. Toham, A. Kamdem, N. Burgess and D. Olson (eds.) *Freshwater ecoregions of Africa and Madagascar: a conservation assessment*. WWF Island press, Washington.
- Myers, J.H., Simberloff, D.A., Kuris, A.M. and Carey, J. 2000. Eradication revisited: dealing with exotic species. *Trends in Ecology and Evolution* **15**:316–320.
- Nel, J.L., Roux, D.J., Maree, G., Kleynhans, C.J., Moolman, J., Reyes, B., Rouget, M. and Cowling R.M. 2007. Rivers in peril inside and outside protected areas: a systematic approach to conservation assessment of river ecosystems. *Diversity and Distributions* **13**:341–352.
- Nel, J.L., Smith-Adao, L.B., Amis, M., Bhengu, S., Hardwick, D., Mack, S., Maherry, A., Mbone, N., Petersen, C., Swartz, E., Van Deventer, H., Van Niekerk, L. and Wistebaar, N. 2009. *Identifying and enabling protection of National Freshwater Ecosystem Priority Areas (NFEPA) for*

- South Africa. pp.22. Council for Scientific and Industrial Research, Pretoria.
- Nel, J.L., Reyers, B., Roux, D.J., Impson, N.D. and Cowling, R.M. 2011. Designing a conservation area network that supports the representation and persistence of freshwater biodiversity. *Freshwater Biology* **56**:106–124.
- Nilsson, C. and Gotmark, F. 1992. Protected areas in Sweden: is natural variety adequately represented? *Conservation Biology* **6**:232–242.
- Norris, R.H., Prosser, I., Young, B., Liston, P., Bauer, N., Davies, N., Dyer, F., Linke, S. and Thoms, M.C. 2007. Very broad-scale assessment of human impacts on river condition. *Freshwater Biology* **52**:959–976.
- Olson, D.M., Dinerstein, E., Powell, G.V.N. and Wikramanayake, E.D. 2002. Conservation biology for the biodiversity in crisis. *Conservation Biology* **16**:1–3.
- Pimm, S.L., Russell, G.J., Gittleman, J.L. and Brooks, T.M. 1995. The future of biodiversity. *Science* **269**:347–350.
- Possingham, H.P., Ball, I.R. and Andelman, S. 2000. Mathematical methods for identifying representative reserve networks. In: S. Ferson. and M. Burgman (eds.) *Quantitative methods for conservation biology*. Springer-Verlag, New York.
- Possingham, H.P., Andelman, S.J., Noon, B.R., Trombulak, S. and Pulliam, H.R. 2001. Making smart conservation decisions. In: M.E. Soule' and G.H. Orians (eds.), *Conservation Biology: Research Priorities for the Next Decade*. Island Press, Washington, DC.
- Pressey, R.L. 1994. Ad hoc reservations: forward or backward steps in developing representative reserve systems? *Conservation Biology* **8**(3):662–8.
- Pressey, R.L. 2002. The first reserve selection algorithm – a retrospective on Jamie Kirkpatrick's 1983 paper. *Progress in Physical Geography* **26**:434–441.
- Pressey, R.L. and Nicholls, A.O. 1989. Efficiency in conservation evaluation: scoring versus iterative approaches. *Biological Conservation* **50**:199–218.
- Pressey, R.L. and Tully, S.L. 1994. The cost of ad hoc reservation: a case study in New South Wales. *Australian Journal of Ecology* **19**:375–384.
- Pressey, R.L., Possingham, H.P. and Margules, C.R. 1996. Optimality in reserve selection algorithms: when does it matter and how much? *Biological Conservation* **76**:259–267.
- Pressey, R.L., Hager, T.C., Ryan, K.M., Schwarz, J., Wall, S., Ferrier, S. and Creaser, P.M. 2000. Using abiotic data for conservation assessments over extensive regions: quantitative methods applied across New South Wales, Australia. *Biological Conservation* **96**:55–82.
- Pressey, R.L., Watts, M.E., Barrett, T.W. and Ridges, M.J. 2008. The C-Plan conservation planning system: origins, applications, and possible futures. In: A. Moilanen, H.P. Possingham and K.A. Wilson (eds.), *Spatial Conservation Prioritization*. Oxford University Press, Oxford.
- Pringle, C.M. 2001. Hydrologic connectivity and the management of biological reserves: A global perspective. *Ecological Applications* **11**:981–998.
- Puth, L.M. and Wilson, K.A. 2001. Boundaries and corridors as a continuum of ecological flow control: lessons from rivers and streams. *Conservation Biology* **15**:21–30.
- Quattro, J.M., Leberg, P.I., Douglas, M.E. and Vrijenhoek, R.C. 1996. Molecular evidence for a unique evolutionary lineage of endangered sonoran desert fish (Genus *Poeciliopsis*). *Conservation Biology* **10**:128–135.
- Rahel, F.J. 2007. Biogeographic barriers, connectivity and homogenization of freshwater faunas: it's a small world after all. *Freshwater Biology* **52**:696–710.
- Rall, J., Swartz, E., Skoroszewski, R. and Cunningham, M. 2002. Contract LHDA 1041: Determination of sanctuary sites outside the Mohale catchment and transplantation of Maloti minnow to identified sanctuaries. pp.54. South African Institute for Aquatic Biodiversity, Grahamstown.
- Rivers-Moore, N.A., Goodman, P.S. and Nel, J.L. 2010. Scale based freshwater conservation planning: towards protecting freshwater biodiversity in KwaZulu-Natal, South Africa. *Freshwater Biology* **56**:125–141.
- Rondinini, C., Wilson, K.A., Boitani, L., Grantham, H. and Possingham, H.P. 2006. Tradeoffs of different types of species occurrence data for use in systematic conservation planning. *Ecology Letters* **9**:1136–1145.
- Root, K.V., Akcakaya, H.R. and Ginzburg, L. 2003. A multispecies approach to ecological valuation and conservation. *Conservation Biology* **17**:196–206.
- Roux, D., de Moor, F., Cambray, J. and Barber-James, H. 2002. Use of landscape-level river signatures in conservation planning: a South African case study. *Conservation Ecology* **6**: <http://www.consecol.org/vol6/iss2/art6>. (Last accessed 2 May 2010).
- Sarkar, S. 1999. Wilderness preservation of biodiversity conservation - Keeping divergent goals distinct. *BioScience* **49**:405–412.
- Sarkar, S. 2002. Defining 'biodiversity': assessing biodiversity. *The Monist* **85**:131–155.
- Saunders, D.L., Meeuwig, J.J. and Vincent, A.C.J. 2002. Freshwater Protected Areas: Strategies for Conservation. *Conservation Biology* **16**:30–41.
- Shea, K. 1998. Management of populations in conservation, harvesting and control. *Trends in Ecology and Evolution* **13**:371–375.
- Simberloff, D. 1998. Flagships, umbrellas, and keystones: Is single-species management passé in the landscape era? *Biological Conservation* **83**:247–257.
- Skelton, P.H., Cambray, J.A., Lombard, A.T. and Benn, G.A. 1995. Patterns of distribution and conservation status of freshwater fishes in South Africa. *South African Journal of Ichthyology* **30**:71–81.
- Skelton, P., Rall, J., Swartz, E., Bloomer, P., Bills, R. and Tweddle, D. 2001. Contract LHDA 1041: Maloti Minnow Conservation Project, pp.141. South African Institute for Aquatic Biodiversity, Grahamstown.
- Snelder, T.H. and Biggs, B.J.F. 2002. Multiscale river environment classification for water resources management. *Journal of the American Water Resources Association* **38**:1225–1239.

- Snelder, T.H., Dey, K.L. and Leathwick, J.R. 2007. A procedure for making optimal selection of input variables for multivariate environmental classifications. *Conservation Biology* **21**:365–375.
- Sowa, S.P., Annis, G., Morey, M.E. and Diamond, D.D. 2007. A gap analysis and comprehensive conservation strategy for riverine ecosystems of Missouri. *Ecological Monographs* **77**:301–334.
- Stein, J.L. 2005. A national landscape framework for river and stream conservation: developing a new stream and catchment reference system. In: I.D. Rutherford, I. Wiszniewski, M. Askey-Doran and R. Glazik (eds.), Fourth Australian Stream Management Conference: Linking Rivers to Landscapes. Department of Primary Industries, Water and the Environment, Hobart.
- Stein, J.L., Stein, J.A. and Nix, H.A. 2002. Spatial analysis of anthropogenic river disturbance at regional and continental scales: identifying the wild rivers of Australia. *Landscape and Urban Planning* **60**:1–25.
- Storey, R.G. and Cowley, D.R. 1997. Recovery of three New Zealand rural streams as they pass through native forest remnants. *Hydrobiologia* **353**:63–76.
- Swartz, E.R. 2005. Phylogeography, phylogenetics and evolution of the redfins (Teleostei, Cyprinidae, *Pseudobarbus*) in southern Africa. *Department of Genetics*. pp.240. University of Pretoria, Pretoria.
- Thieme, M., Lehner, B., Abell, R., Hamilton, S.K., Kellendorfer, J., Powell, G. and Riveros, J.C. 2007. Freshwater conservation planning in data-poor areas: an example from a remote Amazonian basin (Madre de Dios River, Peru and Bolivia). *Biological Conservation* **135**:484–501.
- Thoms, M.C., Hill, S.M., Spry, M.J., Chen, X.J., Mount, T.J. and Sheldon, F. 2004. The geomorphology of the Darling River. In: R. Breckwoldt, R. Boden and J. Andrew (eds.), *The Darling*. Murray-Darling Basin Commission, Canberra.
- Turak, E. and Koop, K. 2008. Multi-attribute ecological river typology for assessing ecological condition and conservation planning. *Hydrobiologia* **603**:83–104.
- Turak, E., Ferrier, S., Barrett, T., Mesley, E., Drielsma, M., Manion, G., Doyle, G., Stein, J. and Gordon, G. 2011. Planning for the persistence of river biodiversity: exploring alternative futures using process-based models. *Freshwater Biology* **56**:39–56.
- Tweddle, D., Skelton, P.H., van der Waal, B.C.W., Bills, I.R., Chilala, A. and Lekoko, O.T. 2004. *Aquatic biodiversity survey for the "Four Corners" Transboundary Natural Resources Management Area*. Final Report – July 2004. SAIAB Investigational Reports, African Wildlife Foundation.
- Tweddle, D., Bills, R., Swartz, E., Coetzer, W., Da Costa, L., Engelbrecht, J., Cambray, J., Marshall, B., Impson, D., Skelton, P.H., Darwall, W.R.T. and Smith, K.G. 2009. The status and distribution of freshwater fishes. In: W.R.T. Darwall, K.G. Smith, D. Tweddle and P.H. Skelton (eds.), *The Status and Distribution of Freshwater Biodiversity in Southern Africa*, pp.21–37. Gland, Switzerland: IUCN and Grahamstown, South Africa: SAIAB.
- Verheyen, E., Saltzburger, W., Snoeks, J. and Meyer A. 2003. Origin of the superlock of cichlid fishes from Lake Victoria, East Africa. *Science* **300**:325–329.
- Ward, J.V. 1998. Riverine landscapes: biodiversity patterns, disturbance regimes, and aquatic conservation. *Biological Conservation* **83**:269–278.
- Ward, J.V., Malard, F. and Tockner, K. 2004. Landscape ecology: a framework for integrating patterns and process in river corridors. *Landscape Ecology* **17**(Suppl. 1):35–45.
- Williams, P., Gibbons, D., Margules, C., Rebelo, A., Humphries, C. and Pressey, R. 1996. A comparison of richness hotspots, rarity hotspots and complementarity areas for conserving diversity of British birds. *Conservation Biology* **10**:155–174.
- Williams, P., Whitfield, M., Biggs, J., Bray, S., Fox, G., Nicolet, P. and Sear, D. 2004. Comparative biodiversity of rivers, streams, ditches and ponds in an agricultural landscape in Southern England. *Biological Conservation* **115**:329–341.
- Wilson, K.A., Westphal, M.I., Possingham, H.P. and Elith, J. 2005. Sensitivity of conservation planning to different approaches to using predicted species distribution data. *Biological Conservation* **122**:99–112.
- Winemiller, K.O. and Kelso-Winemiller, L.C. 1993. Description of a new *Neolebias* (Characiformes; Distochodontidae) from the Upper Zambezi drainage of Zambia. *Copeia* **1**:112–116.

Chapter 10 References

- Alemayehu, T., Furi, W. and Legesse, D. 2007. Impact of Water Overexploitation on Highland Lakes of Eastern Ethiopia. *Environmental Geology* **52**:147–154.
- Bakema, R.J., Howard, G.W. and Wood, A.P. 2009. Multiple Use of Wetlands in Eastern Africa. In: E. Maltby and T. Barker (eds.), *The Wetlands Handbook*. Wiley-Blackwell, UK.
- Chapman, L.J., Chapman, C.A., Kaufman, L., Witte, F. and Balirwa, J. 2008. Biodiversity Conservation in African Inland Waters: Lessons of the Lake Victoria Region. *Verhandlungen des Internationalen Verein Limnologie* **30**:16–34.
- Cumberlidge, N. 2006. A rapid survey of the decapods crustaceans of the Boké Prefecture, Guinea. In: H.E. Wright, J. McCullough and M.S. Diallo (eds.), *A rapid biological assessment of Boké Prefecture, Northwestern Guinea*. *RAP Bulletin of Biological Assessment* **41**. Conservation International. Washington, D.C., pp.38–46, 168–175.
- Dugan, P. 1990. Wetland conservation: a review of current issues and required action. IUCN, Gland, Switzerland.
- Emerton, L. 2005a. *Values and Rewards: Counting and Capturing Ecosystem Water Services for Sustainable Development*. IUCN Water, Nature and Economics

- Technical Paper No. 1, IUCN-The World Conservation Union, Ecosystems and Livelihoods Group Asia. http://cmsdata.iucn.org/downloads/2005_047.pdf.
- Emerton, L. 2005b. Counting Ecosystems as Part of Development Infrastructure—Using Economic Valuation to Promote Freshwater Biodiversity Conservation in Africa. In: *New Currents in Conserving Freshwater Systems: A Biodiversity Science Symposium*. American Museum of Natural History, 7 and 8 April 2005. Retrieved from: <http://symposia.cbc.amnh.org/freshwater/presenters/transcripts/emerton-text.pdf>
- Energy and Biodiversity Initiative. 2003. Integrating Biodiversity into Environmental and Social Impact Assessment Processes. <http://www.theebi.org/pdfs/esia.pdf>
- FAO (Food and Agriculture Organization). 1998. *Wetland Characterization and Classification for Sustainable Agricultural Development*. Sub-Regional Office for East and Southern Africa (SAFR), Harare.
- FAO (Food and Agriculture Organization). 2007. *Dams and Agriculture in Africa*. FAO Aquastat Dams Africa – 070524.
- FAO (Food and Agriculture Organization). 2009. *Aquastat database*. www.fao.org/nr/aquastat/.
- FAO (Food & Agriculture Organization). 2010. *Hunger Map 2010*. <http://www.fao.org/economic/ess/food-security-statistics/fao-hunger-map/en/>
- Finlayson, M. and Moser, M. 1991. Wetlands. International Waterfowl and Wetlands Research Bureau: Slimbridge.
- Finlayson, C.M. and Spier, A.G. (eds.). 1999. *Global review of wetland resources and priorities for wetland inventory*. Supervising Scientist Report 144/Wetlands International Publication 53, Supervising Scientist, Canberra.
- Gates Foundation. 2009. Agricultural Strategy Development Overview. <http://www.gatesfoundation.org/agriculturaldevelopment/Documents/agricultural-development-strategy-overview.pdf>
- Hanlon, T. 2010. The Impacts of Mining Legacy in a Water-Scarce South Africa: An Environmental Security Perspective. Research Paper. 2010, University of Oregon. <http://ir.library.oregonstate.edu/xmlui/bitstream/handle/1957/16176/Hanlon%20Thomas%20Final%20Draft%20v2.pdf?sequence=1>
- Hecky, R.E., Mugidde, R., Ramlal, P.S., Talbot, M.R. and Kling, G.W. 2010. Multiple Stressors Cause Rapid Ecosystem Change in Lake Victoria. *Freshwater Biology* 55:19–42.
- IAIA (International Association of Impact Assessment). 2005. *Biodiversity in Impact Assessment*. Special Publication Series Number 3. <http://www.iaia.org/publicdocuments/special-publications/SP3.pdf>
- IAIA. 1996. *Principles of Environmental Impact Assessment Best Practice*. http://www.iaia.org/publicdocuments/special-publications/Principles%20of%20IA_web.pdf
- ICMM (International Council of Mining and Minerals). *Good Practice Guidance for Mining and Minerals*. 2006. <http://www.icmm.com/page/1182/good-practice-guidance-for-mining-and-biodiversity>
- International Rivers. 2011. <http://www.internationalrivers.org/africa>.
- International Water Power and Dam Construction. 2011. <http://www.waterpowermagazine.com>.
- IUCN, 2011a. The Mouloya River Basin Case Study. http://www.iucn.org/about/work/programmes/species/our_work/about_freshwater/what_we_do_freshwater/pan_africa_freshwater_ba/the_mouloya_river_basin_case_study/
- IUCN 2011b. Case Study – Okavango delta. http://www.iucn.org/about/work/programmes/species/our_work/about_freshwater/what_we_do_freshwater/pan_africa_freshwater_ba/pan_africa_okavangocasestudy/
- IUCN ESARO (International Union for Conservation of Nature – Eastern and Southern Africa Regional Office). Unpublished. *Water and Wetlands Situation Analysis*. (By Dr. Emmanuel Mwendera).
- Jay, S., Jones, C., Slinn, P. and Wood, C. 2006. Environmental impact assessment: retrospect and prospect. *Environmental Impact Assessment Review* 27(4):287–300.
- Johnson, C.L., Tunstall, S.M. and Penning-Rowsell, E.C. 2003. *A model of incremental and catalytic policy change: from land drainage to flood risk management*. Flood Hazard Research Centre working paper, Middlesex University.
- Kingdon, J. 1984. *Agendas, alternatives and public policies*. Little Brown, Boston.
- Kumar, P. (ed.) 2010. *The Economics of Ecosystems and Biodiversity: Ecological and Economic Foundations*. Earthscan.
- Mbendi, accessed January 18, 2011 <http://www.mbendi.com/indy/ming/af/p0005.htm#10>
- McCartney, M.P. and Sally, H. 2005. Managing the Environmental Impact of Large Dams in Africa. In: B.A. Lankford and H.F. Mahoo (eds.), *Proceedings of the East Africa Integrated River Basin Management Conference, 7th – 9th March 2005, Sokoine University of Agriculture, Morogoro, Tanzania*. 151–159
- Mendelsohn, J.M., vanderPost, C., Ramberg, L., Murray-Hudson, M., Wolski, P. and Mosepele, K. 2010. *Okavango Delta: Floods of Life*. RAISON (Windhoek, Namibia).
- Mfundisi, K.B. 2008 Overview of an Integrated Management Plan for the Okavango Delta Ramsar Site, Botswana. *Wetlands* 28(2):538–543.
- Mongabay. July 10 2009. *China to Establish Giant Oil Palm Plantation in DR Congo*. http://news.mongabay.com/2009/0710-drc_china_palm_oil.html
- OECD 1996. *Guidelines for aid agencies for improved conservation and sustainable use of tropical and subtropical wetlands*. Organisation for Economic Co-operation and Development, Paris, France.
- Sabatier, P.A. 1991. Toward better theories of the policy process. *Political Science and Politics* 24:147–156.
- Shiklomanov, I.A. 2000. Appraisal and Assessment of World Water Resources. *Water International* 25(1):11–32.
- Smith, M. 2010. *Managing water resource with natural infrastructure*. Global Water Forum, 9 December 2010. <http://www.globalwaterforum.org/2010/12/09/managing-water-resources-with-natural-infrastructure/>

- Smuts, R. 2010. *Are partnerships the key to conserving Africa's biodiversity? Four partnership case studies between mining companies and conservation NGOs*. Conservation International. Arlington, Virginia.
- Sweeting, A. and Clark, A. 2000. *Lightening the Load: A Guide to Responsible Large-Scale Mining*. Conservation International. Arlington, Virginia. <http://www.conservation.org/sites/ceb/Documents/lode.pdf>
- TEEB (The Economics of Ecosystems and Biodiversity). 2010. *TEEB for Local and Regional Policy Makers Report*. <http://www.teebweb.org/ForLocalandRegionalPolicy/LocalandRegionalPolicyMakersChapterDrafts/tabid/29433/Default.aspx>
- TEEB (The Economics of Ecosystems and Biodiversity). 2011. <http://www.teebweb.org/Home/tabid/924/Default.aspx>
- TEEB (The Economics of Ecosystems and Biodiversity). (in press). *TEEB for Business*. <http://www.teebweb.org/ForBusiness/tabid/1021/Default.aspx>
- ten Brink, P. (ed.), (in press). *The Economics of Ecosystems and Biodiversity in National and International Policy Making*.
- The Africa Report. 16 July 2010. *Congo says Talking to China on Land for Oil Palm*. <http://www.theafricareport.com/last-business-news/3293554-Congo%20says%20talking%20to%20China%20on%20land%20for%20palm%20oil.html>
- The Economist*. 2 October 2008. Science and technology: Where the wild things are; conservation. *The Economist*, **389(8600)**.
- The Economist*. 21 May 2009. Buying Farmland Abroad: Outsourcing's Third Wave? *The Economist*
- Thieme, M.L., Turak, E., McIntyre, P., Darwall, W., Tockner, K., Cordeiro, J. and Butchart, S.H.M. 2010. Freshwater ecosystems under threat: the ultimate hotspot. In: R.A. Mittermeier, T.A. Farrell, I.J. Harrison, A.J. Upgren and T.M. Brooks (eds.), *Fresh water: the essence of life*, pp.123–143. CEMEX and ILCP, Arlington, Virginia, USA.
- Turpie, J., Barnes, J., Arntzen, J., Nherera, B., Lange, G.-M. and Buzwani, B. 2006. Economic Value of the Okavango Delta, Botswana, and Implications for Management. Available from <http://www.anchorenvironmental.co.za/Documents/Pdfs/Okavango%20Delta%20Valuation%20FINAL%20REPORT%202006.pdf>
- UN Water/Africa. 2000. *The Africa Water Vision for 2025: Equitable and Sustainable Use of Water for Socioeconomic Development*. UN Economic Commission for Africa.
- Vincent, N., Ngeno, E.K., Langat, B.K. and Kipsat, M.J. 2010. Econometric Analysis of the Effects of Water Hyacinth on the Fish Catches in Lake Victoria, East Africa. *Journal of Development and Agricultural Economics* **2(3)**:277–280.
- Vörösmarty, C.J., McIntyre, P.B., Gessner, M.O., Dudgeon, D., Prusevich, A., Green, P., Glidden, S., Bunn, S.E., Sullivan, C.A., Reidy Liermann, C. and Davies, P.M. 2010. Global threats to human water security and river biodiversity. *Nature* **467**:553–561.
- Wetlands International (Africa Office). 2007. *Strengthening policies for the wise use and management of wetlands in four ecoregions (West and Central Africa): contribution by Wetlands International – BBI Project*.
- Wetlands International. 2009. *WebGIS maps of Ramsar sites*. <http://ramsar.wetlands.org/>
- Witte, F., Wanink, J.H. and Kische-Machumu, M. 2007. Species Distinction and the Biodiversity Crisis in Lake Victoria. *Transactions of the American Fisheries Society* **136**:1146–1159.
- World Bank, World Development Indicators. 2009. <http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/AFRICAEXT/EXTPUBREP/EXTSTATINAFR/0,,menuPK:824057~pagePK:64168427~piPK:64168435~theSitePK:824043,00.html>

Other key materials

- Important Bird Areas and Potential Ramsar Sites in Africa
http://www.birdlife.org/action/change/ramsar/ibas_ramsar_africa.html
- International Course on African Wetland Management
<http://www.kws.org/about/training/kwsti.html>
- Ramsar convention on wetlands
<http://www.ramsar.org>
- Ramsar sites information services
<http://ramsar.wetlands.org>
- Wetland Development And Management In SADC Countries
<ftp://ftp.fao.org/agl/aglw/docs/wetlands.pdf>
- Wetlands International
<http://www.wetlands.org>