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References



References

- Adeyemo, A.I., Agbelusi, E.A., Afunmiso, M.O., Olusoji, O.A.B., Orsar, T.J. & Bankole, Y.M. 2005. Some aspects of population ecology of Nile rat *Arvicanthis niloticus* in the Guinea savannah of Nigeria. *Journal of Animal and Veterinary Advances* 4: 818-824.
- Allen, M.E. 1989. *Nutritional aspects of insectivory*. PhD thesis, Michigan State University, East Lansing, MI, U.S.A.
- Amo, L., Lopez, P. & Martin, J. 2007. Habitat deterioration affects body condition of lizards: A behavioural approach with *Iberolacerta cyreni* lizards inhabiting ski resorts. *Biological Conservation* 135: 77-85.
- Anadón, J.D., Sánchez-Zapata, J.A., Carrete, M., Donazar, J.A. & Hiraldo, F. 2010. Large-scale human effects on an arid African raptor community. *Animal Conservation* 13: 495-504.
- Anderson, D.L. 2001. Landscape heterogeneity and diurnal raptor diversity in Honduras: The role of indigenous shifting cultivation. *Biotropica* 33: 511-519.
- Anderson, D.J., Budde, C., Apanius, V., Gomez, J.M., Bird, D.M. & Weathers, W.W. 1993. Prey size influences female competitive dominance in nestling American kestrels (*Falco sparverius*). *Ecology* 74: 367-376.
- Aparicio, J.M. & Bonal, R. 2002. Effects of food supplementation and habitat selection on timing of Lesser Kestrel breeding. *Ecology* 83: 873-877.
- Aparicio, J.M. & Cordero, P.J. 2001. The effects of the minimum threshold condition for breeding on offspring sex-ratio adjustment in the lesser kestrel. *Evolution* 55: 1188-1197.
- Appleby, B.M., Petty, S.J., Blakey, J.K., Rainey, P. & MacDonald, D.W. 1997. Does variation of sex ratio enhance reproductive success of offspring in tawny owls (*Strix aluco*)? *Proceedings of the Royal Society of London Series B* 264: 1111-1116.
- Ardia, D.R. & Bildstein, K.L. 1997. Sex-related differences in habitat selection in wintering American kestrels *Falco sparverius*. *Animal Behavior* 53: 1305-1311.
- Arroyo, B.E. 1997. Diet of Montagu's Harrier *Circus pygargus* in central Spain: analysis of temporal and geographic variation. *Ibis* 139: 664-672.
- Arroyo, B.E. 2002. Fledgling sex ratio variation and future reproduction probability in Montagu's harrier, *Circus pygargus*. *Behavioral Ecology and Sociobiology* 52: 109-116.
- Arroyo, B.E., King, J.R. & Palomares, L.E. 1995. Observations on the ecology of Montagu's and Marsh Harriers wintering in north-west Senegal. *Ostrich* 66: 37-40.
- Askew, N.P., Searle, J.B. & Moore, N.P. 2007. Agri-environment schemes and foraging of Barn Owls *Tyto alba*. *Agriculture, Ecosystems and Environment* 118: 109-114.
- Attum, O.A. & Eason, P.K., 2006. Effects of vegetation loss on a sand dune lizard. *Journal of Wildlife Management* 70: 27-30.
- Balbontin, J., Negro, J.J., Sarasola, J.H., Ferrero, J.J. & Rivera, D. 2008. Land-use changes may explain the recent range expansion of the Black-shouldered Kite *Elanus caeruleus* in southern Europe. *Ibis* 150: 707-716.
- Bamford, A.J., Monadjem, A. & Hardy, I.C.W. 2009. Nesting habitat preference of the African White-backed Vulture *Gyps africanus* and the effects of anthropogenic disturbance. *Ibis* 151: 51-62.
- Bannerman, D.A. 1951. *The Birds of Tropical West Africa*. Vol. 8. The Crown Agents for the Colonies, London.
- Barkhuysen, A. 2004. Raptor abundance on three road counts in the Eastern Cape. *Gabar* 15: 31-33.
- Barlow, C., Disley, T. & Wacher, T. 1997. *A Field Guide to the Birds of the Gambia and Senegal*. Christopher Helm, London.
- Bates, G.L. 1930. *Handbook of the birds of West Africa*. John Bale, Sons and Danielsson, Ltd, London, U.K.
- Bavoux, C., Burneleau, G. & Bretagnolle, V. 2006. Gender determination in the western marsh harrier (*Circus aeruginosus*) using morphometrics and discriminant analysis. *Journal of Raptor Research* 40: 57-64.
- Beauchamps, G. 1999. The evolution of communal roosting in birds: origin and secondary losses. *Behavioral Ecology* 10: 675-687.
- Bechard, M.J. 1982. Effect of vegetative cover on foraging site selection by Swainson's Hawk. *Condor* 84: 153-159.
- Beier, P. & Drennan, J.E. 1997. Forest structure and prey abundance in foraging areas of Northern Goshawks. *Ecological Applications* 7: 564-571.
- Bennets, R.E. & Riley McCelland, B. 1991. Differences in the distribution of adult and immature bald eagles at an autumn concentration in Montana. *Northwest Science* 65: 223-230.
- Bennets, R.E. & Riley McCelland, B. 1997. Influence of age and prey availability on Bald Eagle foraging behavior at Glacier National Park, Montana. *The Wilson Bulletin* 109: 393-409.
- Benton, T.G., Vickery, J.A. & Wilson, J.D. 2003. Farmland biodiversity: is habitat heterogeneity the key? *Trends*

-
- in *Ecology & Evolution* 18: 182-188.
- Berkelman, J., Fraser, J.D. & Watson, R.T. 1999. Lake selection by Madagascar Fish-eagles. *Auk* 116: 976-983.
- Berthold, P. 2001. *Bird migration: a general survey*. Oxford University Press, Oxford, U.K.
- Bibby, C.J., Burgess, N.D. & Hill, D.A. 1992. *Bird Census Techniques*. Academic Press, London, U.K.
- Biggs, R., Simons, H., Bakkenes, M., Scholes, R., Eickhout, B., van Vuuren, D. & Alkemade, R. 2008. Scenarios of biodiversity loss in southern Africa in the 21st century. *Global Environmental Change* 18: 296-309.
- Bildstein, K.L. & Collopy, M.W. 1985. Escorting flight and agonistic interactions in wintering northern harriers. *Condor* 87: 398-401.
- Bildstein, K.L. & Hamerstrom, F. 1980. Age and sex differences in the size of Northern Harriers. *Journal of Field Ornithology* 51: 356-360.
- Biondi, L.M., García, G.O., Bó, M.S. & Vassallo, A.I. 2010. Social Learning in the Caracas Chimango, *Milvago chimango* (Aves: Falconiformes): an Age Comparison. *Ethology* 116: 722-735.
- BirdLife International 2010a. Species factsheet: *Circus macrourus*. <http://www.birdlife.org>. Accessed 21 January 2011.
- BirdLife International 2010b. Species factsheet: *Circus aeruginosus*. <http://www.birdlife.org>. Accessed 21 January 2011.
- BirdLife International 2010c. Species factsheet: *Circus pygargus*. <http://www.birdlife.org>. Accessed 21 January 2011.
- BirdLife International 2012a. *Important Bird Areas factsheet: Lake Maga*. <http://www.birdlife.org>. Accessed 20 February 2012.
- BirdLife International 2012d. *Important Bird Areas factsheet: Waza National Park*. <http://www.birdlife.org>. Accessed 20 February 2012.
- BirdLife International 2012c. *Important Bird Areas factsheet: Logone Flood-plain*. <http://www.birdlife.org>. Accessed 20 February 2012.
- BirdLife International. 2012d. *Important Bird Areas factsheet: Mayo-Louti Forest Reserve*. <http://www.birdlife.org>. Accessed 20 February 2012.
- BirdLife International. 2012e. *Important Bird Areas factsheet: Gashiga-Demsa*. <http://www.birdlife.org>. Accessed 20 February 2012.
- BirdLife International. 2012f. *Important Bird Areas factsheet: Bénoué National Park*. <http://www.birdlife.org>. Accessed 20 February 2012.
- BirdLife International. 2012g. *Important Bird Areas factsheet: Faro National Park*. <http://www.birdlife.org>. Accessed 20 February 2012.
- Bisson, I.A., Ferrer, M. & Bird, D.M. 2002. Factors influencing nest-site selection by Spanish Imperial Eagles. *Journal of Field Ornithology* 73: 298-302.
- Blaum, N., Rossmannith, E. & Jeltsch, F. 2007. Land use affects rodent communities in Kalahari savannah rangelands. *African Journal of Ecology* 45: 189-195.
- Blaum, N., Rossmannith, E., Schwager, M. & Jeltsch, F. 2007. Responses of mammalian carnivores to land use in arid savanna rangelands. *Basic and Applied Ecology* 8: 552-564.
- Blumroeder, J., Eccard, J.A. & Blaum, N. 2012. Behavioural flexibility in foraging mode of the spotted sand lizard (*Pedioplanis l. lineocellata*) seems to buffer negative impacts of savanna degradation. *Journal of Arid Environments* 77: 149-152.
- Boag, P.T. 1987. Effects of nestling diet on growth and adult size of Zebra Finches (*Poephila guttutu*). *Auk* 104: 155-166.
- Boal, C.W. 1994. A photographic and behavioral guide to aging nestling Northern Goshawks. *Studies in Avian Biology* 16: 32-40.
- Boal, C.W. & Mannan, R.W. 1996. Prey sizes of male and female Northern Goshawks. *The Southwestern Naturalist* 41: 355-358.
- Boano, G. & Toffoli, R. 2002. A line transect survey of wintering raptors in the western Po Plain of northern Italy. *Journal of Raptor Research* 36: 128-135.
- Borrow, N. & Demey, R. 2004. *Birds of Western Africa*. Christopher Helm/A&C Black Publishers Ltd, London, U.K.
- Bortolotti, G.R. 1984. Physical development of nestling Bald Eagles with emphasis on the timing of growth events. *Wilson Bulletin* 96: 524-542.
- Bortolotti, G.R. 1986. Evolution of growth rates in eagles: sibling competition versus energy considerations. *Ecology* 67: 182-194.
- Bortolotti, G.R. 1989. Factors influencing the growth of Bald Eagles in north-central Saskatchewan. *Canadian Journal of Zoology* 67: 606-611.

-
- Bortolotti, G.R., Wiebe, K.L. & Iko, W.M. 1991. Cannibalism of nestling American Kestrels by their parents and siblings. *Canadian Journal of Zoology* 69: 1447-1453.
- Boulet, M., Olsen, P.D., Cockburn, A. & Newgrain, K. 2001. Parental investment in male and female offspring by the peregrine falcon *Falco peregrinus*. *Emu* 101: 95-103.
- Bozinovic, F. & Medel, R.G. 1988. Body size, energetic and foraging mode of raptors in Central Chile. An inference. *Oecologia* 75: 456-458.
- Brandl, R., Utschick, H. & Schmidtke, K. 1985. Raptors and land-use systems in southern Africa. *African Journal of Ecology* 23: 11-20.
- Brashares, J.S., Arcese, P. & Sam, M.K. 2001. Human demography and reserve size predict wildlife extinction in West Africa. *Proceedings of the Royal Society of London Series B* 268: 2473-2478.
- Brasseur, R.E. 2000. African Swallow-tailed Kite *Chelictinia riocourii* breeding in the Saloum Delta, Sénégal. *Bulletin of the African Bird Club* 7: 134.
- Brink, A. & Eva, H.D. 2009. Monitoring 25 years of land cover change dynamics in Africa: A sample based remote sensing approach. *Applied Geography* 29: 501-512.
- Britton, P.L. 1980. *Birds of East Africa. Their habitat, status and distribution*. East Africa Natural History Society, Nairobi, Kenya.
- Brommer, J.E., Karell, P., Pihlaja, T., Painter, J.N., Primmer, C.R. & Pietiäinen, H. 2003. Ural owl sex allocation and parental investment under poor food conditions. *Oecologia* 137: 140-147.
- Brooks, T.M., Mittermeier, R.A., da Fonseca, G.A., Gerlach, J., Hoffmann, M., Lamoreux, J.F., Mittermeier, C.G., Pilgrim, J.D. & Rodrigues, A.S. 2006. Global biodiversity conservation priorities. *Science* 313: 58-61.
- Brouwer, J., Mullié, W.C. & Souvairan, P. 2000. Colour of downy young and notes on breeding and food of the Grasshopper Buzzard *Butastur rufipennis*. *Malimbus* 22: 34-37.
- Brown, C.J. 1991. Declining Martial *Polemaetus bellicosus* and Tawny *Aquila rapax* Eagle populations and causes of mortality or farmlands in Central Namibia. *Biological Conservation* 56: 49-62.
- Brown, J.H., Mehlman, D.W. & Stevens, G.C. 1995. Spatial variation in abundance. *Ecology* 76: 2028-2043.
- Brown, J.L. & Collopy, M.W. 2008. Nest-site characteristics affect daily nest-survival rates of northern Aplomado Falcons (*Falco femoralis septentrionalis*). *Auk* 125: 105-112.
- Brown, J.S., Kotler, B.P., Smith, R.J. & Wirtz, W.O. 1988. The effects of owl predation on the foraging behavior of heteromyid rodents. *Oecologia* 76: 408-415.
- Brown, L.H. 1970. *African birds of prey: a study of Africa's 89 diurnal raptors and 31 owls*. Houghton Mifflin, Boston, MA, U.S.A.
- Brown, L.H. 1976. *Eagles of the world*. Universe Books, New York, U.S.A.
- Brown, L.H. & Amadon, D. 1968. *Eagles, Hawks and Falcons of the World*, vol.1. McGraw-Hill Book Company, New York.
- Brown, L.H., Urban, E.K. & Newman, K. 1982. *The Birds of Africa*, vol. 1. Academic Press, London, U.K.
- Buckland, S.T., Anderson, D.R., Burnham, K.P. & Laake, J.L. 1993. *Distance Sampling: Estimating Abundance of Biological Populations*. Chapman and Hall, London, U.K.
- Burkey, T.V. 1989. Extinction in nature reserves: The effect of fragmentation and the importance of migration between reserve fragments. *Oikos* 55: 75-81.
- Burnham, K.P. & Anderson, D.R. 2002. *Model Selection and Multimodel Inference: A Practical Information-Theoretic Approach*. 2nd ed. Springer-Verlag, Germany.
- Bustamante, J., Donázar, J.A., Hiraldo, F., Ceballos, O. & Travaini, A. 1997. Differential habitat selection by immature and adult Grey Eagle-buzzards, *Geranoaetus melanoleucus*. *Ibis* 139: 322-330.
- Bustamante, J. & Hiraldo, F. 1989. Post-fledging dependence period and maturation of flight skills in the Black Kite *Milvus migrans*. *Bird Study* 36: 199-204.
- Butler, M.A. 2005. Foraging mode of the chameleon, *Bradypodion pumilum*: a challenge to the sit-and-wait versus active forager paradigm? *Biological Journal of the Linnean Society* 84: 797-808.
- Cade, T.J. 1969. The status of the peregrine and other falconiforms in Africa. In Hickey, J.J. (ed.), *Peregrine Falcon populations: their biology and decline*. University of Wisconsin Press, Madison, WI, U.S.A. Pp. 289-321.
- Cardador, L., Carrete, M. & Mañosa, S. 2011. Can intensive agricultural landscapes favour some raptor species? The Marsh harrier in north-eastern Spain. *Animal Conservation* 14: 382-390.
- Caro, T.M. 2001. Species richness and abundance of small mammals inside and outside an African national park. *Biological Conservation* 98: 251-257.
- Carrete, M., & Donázar, J.A. 2005. Application of central-place foraging theory shows the importance of Mediterranean dehesas for the conservation of the Cinereous Vulture, *Aegypius monachus*. *Biological Conservation* 126: 582-590.

-
- Carrete, M., Tella, J.L., Blanco, G. & Bertellotti, M. 2009. Effects of habitat degradation on the abundance, richness and diversity of raptors across Neotropical biomes. *Biological Conservation* 142: 2002-2011.
- Cavaillès, S. 2010. *Caractérisation de la faune vertébrée et état écologique de l'île de Kousmar, Sénégal*. MSc thesis, Muséum National d'Histoire Naturelle de Paris, Paris, France.
- Chao, A., Chazdon, R.L., Colwell, R.K. & Shen, T.-J. 2005. A new statistical approach for assessing compositional similarity based on incidence and abundance data. *Ecology Letters* 8: 148-159.
- Chape, S., Harrison, J., Spalding, M. & Lysenko, I. 2005. Measuring the extent and effectiveness of protected areas as an indicator of meeting global biodiversity targets. *Philosophical Transactions of the Royal Society B* 360: 443-55.
- Chappell, M.A. & Whitman, D.W. 1990. Grasshopper thermoregulation. In Chapman, R.F. & Joern, A. (eds.) *Biology of grasshoppers*. Wiley, New York, U.S.A. Pp. 143-172.
- Chávez, C., Rivera, A., Azuara, D. & Ceballos, G. 2010. Sex matters: Modeling male and female habitat differences for jaguar conservation. *Biological Conservation* 143: 1980-1988.
- Cheke, R.A. 1995. A historical breeding record in Mali and description of the young of the Grasshopper Buzzard *Butastur rufipennis*. *Malimbus* 17: 106-107.
- Chomitz, K.M. & Griffiths, C. 1997. *An Economic Analysis of Woodfuel Management in the Sahel: The Case of Chad*. World Bank, Policy Research Department: Policy Research Working Paper no. 1788.
- Clarke, R. 1996. *Montagu's Harrier*. Arlequin Press, Chelmsford, U.K.
- Clarke, R. 2002. British Montagu's harriers: What governs their numbers? *Ornithologischer Anzeiger* 41: 143-158.
- Clarke, R., Bourgonje, A. & Castelijns, H. 1993. Food niches of sympatric Marsh Harriers *Circus aeruginosus* and Hen Harriers *C. cyaneus* on the Dutch coast in winter. *Ibis* 135: 424-431.
- Clerici, N., Bodini, A., Eva, H.D., Grégoire, J.-M., Dulieu, D. & Paolini, C. 2006. Increased isolation of two biosphere reserves and surrounding protected areas (WAP Ecological Complex, West Africa). *Journal for Nature Conservation* 15: 26-40.
- Collias, N.E. & Collias, E.C. 1984. *Nest Building and Bird Behaviour*. Princeton University Press, Princeton, New Jersey, U.S.A.
- Collopy, M.W. 1986. Food consumption and growth energetics of nestling golden eagles. *Wilson Bulletin* 98: 445-458.
- Colwell, R.K. 2006. *EstimateS: statistical estimation of species richness and shared species from samples*. Version 8.0 User's Guide and application.
- Colwell, R.K., Chao, A., Gotelli, N.J., Lin, S.-Y., Mao, C.X., Chazdon R.L. & Longino, J.T. 2012. Models and estimators linking individual-based and sample-based rarefaction, extrapolation, and comparison of assemblages. *Journal of Plant Ecology* 5: 3-21.
- Colwell, R.K., Mao, C.X. & Chang, J. 2004. Interpolating, extrapolating, and comparing incidence-based species accumulation curves. *Ecology* 85: 2717-2727.
- Conde, D., Colchero, F., Zarza, H., Christensen Jr., N., Sexton, J., Manterola, C., Cooper Jr., W.E. & Whiting, M.J. 2000. Ambush and active foraging modes both occur in the scincid genus *Mabuya*. *Copeia* 1: 112-118.
- Cormier, J.P. & Baillon, F. 1991. Concentration de Busards cendres *Circus pygargus* (L.) dans la region de M'bour (Senegal) durant l'hiver 1988-1989. *Alauda* 59: 163-168.
- Cortés-Avizanda, A., Almaraz, P., Carrete, M., Sánchez-Zapata, J.A., Delgado, A. 2011. Spatial Heterogeneity in Resource Distribution Promotes Facultative Sociality in Two Trans-Saharan Migratory Birds. *PloS ONE* 6: e21016. doi:10.1371/journal.pone.0021016
- Coulson, J.O., Coulson, T.D., DeFrancesch, S.A. & Sherry, T.W. 2008. Predators of the Swallow-tailed Kite in southern Louisiana and Mississippi. *Journal of Raptor Research* 42: 1-12.
- Cowley, E. & Siriwardena, G.M. 2005. Long-term variation in survival rates of Sand Martins *Riparia riparia*: dependence on breeding and wintering ground weather, age and sex, and their population consequences. *Bird Study* 52: 237-251.
- Craigie, I.D., Baillie, J.E.M., Balmford, A., Carbone, C., Collen, B., Green, R.E. & Hutton, J.M. 2010. Large mammal population declines in Africa's protected areas. *Biological Conservation* 143: 2221-2228.
- Darkoh, M.B.K. 2003. Regional perspectives on agriculture and biodiversity in the drylands of Africa. *Journal of Arid Environments* 54: 261-279.
- Davey, P. & Davey, G. 1980. Swallow-tailed Kites breeding at Porr, Lake Turkana. *East African Natural History Society Bulletin* 1980: 47-49.
- Davygora, A.V. & Belik, V.P. 1994. The Pallid Harrier *Circus macrourus* as an endangered species in the

-
- Paleartic. In Meyburg, B.-U. & Chancellor, R.D. (eds.) *Raptor Conservation Today*. Pica Press, Berlin, Germany and WWGBP, London, U.K. Pp. 93-96.
- Davygora, A.V. 1985. [Species diversity and populations of raptors in the steppe area of south-western Preduralie.] Scientific bases for conservation of the nature of the Urals and problems of ecological monitoring. Sverdlovsk. Pp 15-16. [In Russian]
- De Iongh, H.H., Tumenta, P., Croes, B.M., Funston, P.J., Bauer, H. & Udo de Haes, H.A. 2009. Threat of lion population extinction in Waza National Park, North Cameroon. *Cat News* 50: 26-27.
- Delannoy, C.A. & Cruz, A. 1988. Breeding biology of the Puerto Rican Sharp-shinned Hawk (*Accipiter striatus venator*). *Auk* 105: 649-662.
- del Hoyo, J., Elliott, A. & Sargatal, J. (eds.) 1992. *Handbook of the Birds of the World*, Vol. 1. Lynx Edicions, Barcelona, Spain.
- del Hoyo, J., Elliott, A. & Sargatal, J. (eds.) 1994. *Handbook of the Birds of the World*, Vol. 2. Lynx Edicions, Barcelona, Spain.
- del Hoyo, J., Elliott, A. & Sargatal, J. (eds.) 1996. *Handbook of the Birds of the World*, Vol. 3. Lynx Edicions, Barcelona, Spain.
- del Hoyo, J., Elliott, A. & Sargatal, J. (eds.) 1997. *Handbook of the Birds of the World*, Vol. 4. Lynx Edicions, Barcelona, Spain.
- del Hoyo, J., Elliott, A. & Sargatal, J. (eds.) 2001. *Handbook of the Birds of the World*, Vol. 6. Lynx Edicions, Barcelona, Spain.
- del Hoyo, J., Elliott, A. & Christie, D.A. (eds.) 2004. *Handbook of the Birds of the World*, Vol. 9. Lynx Edicions, Barcelona, Spain.
- del Hoyo, J., Elliott, A. & Christie, D.A. (eds.) 2005. *Handbook of the Birds of the World*, Vol. 10. Lynx Edicions, Barcelona, Spain.
- del Hoyo, J., Elliott, A. & Christie, D.A. (eds.) 2010. *Handbook of the Birds of the World*, Vol. 15. Lynx Edicions, Barcelona, Spain.
- Demey, R. 2011. Recent reports. *Bulletin of the African Bird Club* 18: 93-109.
- Deng, W.H., Gao, W. & Zhao, J. 2004. Breeding biology of the Grey-faced Buzzard (*Butastur indicus*) in northeastern China. *Journal of Raptor Research* 38: 263-269.
- Dennis, P., Young, M.R. & Gordon, I.J. 1998. Distribution and abundance of small insects and arachnids in relation to structural heterogeneity of grazed, indigenous grasslands. *Ecological Entomology* 23: 253-264.
- Dewhurst, C.F. & Fishpool, L.D.C. 1984. The Swallow-tailed Kite *Chelictinia riocourii* breeding in the Kedong Valley, Kenya. *Scopus* 8: 25-26.
- Di Giacomo, A.S., Di Giacomo, A.G. & Reboreda, J.C. 2011. Male and female reproductive success in a threatened polygynous species: the Strange-tailed Tyrant, *Alectrurus risora*. *Condor* 113: 619-628.
- Dijkstra, C., Daan, S. & Buiker, J.B. 1990. Adaptive seasonal variation in the sex ratio of kestrel broods. *Functional Ecology* 4: 143-147.
- Dijkstra, C., Vuursteen, L., Daan, S. & Masman, D. 1982. Clutch size and laying date in the kestrel *Falco tinnunculus*: effect of supplementary food. *Ibis* 124: 210-213.
- Dinsmore, S.J., White, G.C. & Knope, F.L. 2002. Advanced techniques for modelling avian nest survival. *Ecology* 83: 3476-3488.
- Donazar, J.A. & Ceballos, O. 1989. Growth rates of nestling Egyptian Vultures in relation to brood size, hatching order and environmental factors. *Ardea* 77: 217-226.
- Doswald, N., Willis, S.G., Collingham, Y.C., Pain, D.J., Green, R.E. & Huntley, B. 2009. Potential impacts of climatic change on the breeding and non-breeding ranges and migration distance of European *Sylvia* warblers. *Journal of Biogeography* 36: 1194-1208.
- Dowsett-Lemaire, F. & Dowsett, R.J. 2008. The avifauna of Mole National Park, Ghana. *Malimbus* 30: 93-133.
- Duplantier, J.M. & Granjon, L. 1990. Rythmes d'activité chez six espèces du muridés du Sénégal appartenant aux genres *Mastomys*, *Arvicanthis*, *Myomys* and *Dasymys*. *Mammalia* 54: 173-182.
- Ebensperger, L.A. & Simonetti, J.A. 1996. Microclimate and habitat selection in nocturnal rodents of central Chile: a test between biophysical and experimental approaches. *Mammalia* 60: 195-209.
- Edwards Jr., T.C. & Collopy, M.W. 1983. Obligate and facultative brood reduction in eagles: an examination of factors that influence fratricide. *Auk* 100: 630-635.
- Elgood, J.H. 1981. *The birds of Nigeria*. British Ornithologists' Union, London, U.K.
- Ellis, D.H., Bednarz, J.C., Smith, D.G. & Flemming, S. 1993. Social foraging classes in raptorial birds. *Bioscience* 43: 14-20.
- Elphick, C.S. 2004. Assessing conservation trade-offs: identifying the effects of flooding rice fields for waterbirds

- on non-target bird species. *Biological Conservation* 117: 105-110.
- Eraud, C., Boutin, J.-M., Riviere, M., Brun, J., Barbraud, C. & Lormee, H. 2009. Survival of Turtle Doves *Streptopelia turtur* in relation to western Africa environmental conditions. *Ibis* 151: 186-190.
- Esri 1999. *ArcView GIS*. <http://www.Esri.com>.
- Ey, A. 1984. Notes on Letter-winged Kites breeding in Western Queensland, 1972-1983. *Australian Bird Watcher* 10: 243-247.
- Fa, J.E. & Brown, D. 2009. Impacts of hunting on mammals in African tropical moist forests: a review and synthesis. *Mammal Review* 39: 231-264.
- Fabricsius, C., Burger, M. & Hockey, P.A.R. 2003. Comparing biodiversity between protected areas and adjacent rangeland in xeric succulent thicket, South Africa: arthropods and reptiles. *Journal of Applied Ecology* 40: 392-403.
- FAOSTAT 2011. <http://faostat.fao.org>. Accessed 10 January 2011.
- FAOSTAT 2012. <http://faostat.fao.org>. Accessed January-June 2012.
- Fargallo, J.A., Laaksonen, T., Korpimäki, E., Pöyri, V., Griffiths, S.C. & Valkama, J. 2003. Size-mediated dominance and begging behavior in Eurasian Kestrel broods. *Evolutionary Ecology Research* 5: 549-558.
- Ferguson-Lees, J. & Christie, D.A. 2001. *Raptors of the world: a field guide*. Christopher Helm, London, U.K.
- Fielding, D.J. & Brusven, M.A. 1995. Grasshopper densities on grazed and ungrazed rangeland under drought conditions in southern Idaho. *Great Basin Naturalist* 55: 352-358.
- Fisher, R.A. 1930. *The genetical theory of natural selection*. Oxford Clarendon, Oxford, U.K.
- Fjeldså, J. 2007. How broad-scale studies of patterns and processes can serve to guide conservation planning in Africa. *Conservation Biology* 21: 659-667.
- Fletcher, D., Mackenzie, D.I. & Villouta, E. 2005. Modelling skewed data with many zeros: a simple approach combining ordinary and logistic regression. *Environmental and Ecological Statistics* 12: 45-54.
- Foley, J.A., DeFries, R., Asner, G.P., Barford, C., Bonan, G., Carpenter, S.R., Chapin, F.S., Coe, M.T., Daily, G.C., Gibbs, H.K., Helkowski, J.H., Holloway, T., Howard, E.A., Kucharik, C.J., Monfreda, C., Patz, J.A., Prentice, I.C., Ramankutty, N. & Snyder, P.K. 2005. Global consequences of land use. *Science* 309: 570-574.
- Food and Agriculture Organization of the United Nations 1978. *Desert Locust situation, summary and forecast*. No. 1-4. FAO-AGP, Locusts, Other Migratory Pests and Emergency Operations Group, Rome, Italy.
- Food and Agriculture Organization of the United Nations 1979. *Desert Locust situation, summary and forecast*. No. 5-16. FAO-AGP, Locusts, Other Migratory Pests and Emergency Operations Group, Rome, Italy.
- Forbes, L.S. 1991. Hunger and food allocation among nestlings of facultatively siblicidal Ospreys. *Behavioral Ecology and Sociobiology* 29: 189-195.
- Forman, R.T.T. 1995. Some general principles of landscape and regional ecology. *Landscape Ecology* 10: 133-142.
- Forsman, D. 1999. *The Raptors of Europe and the Middle East*. A Handbook of Field Identification. Poyser, London, U.K.
- Fotsing, E. 2009. *Small Savannah: an information system for the integrated analyses of land use change in the Far North Cameroon*. PhD thesis, Leiden University, the Netherlands.
- Fowler, A.C., Knight, R.L., George, T.L., & McEwen, L.C. 1991. Effects of avian predation on grasshopper populations in North Dakota grasslands. *Ecology* 72: 1775-1781.
- Frank, S.A. 1990. Sex allocation theory for birds and mammals. *The Annual Review of Ecology, Evolution, and Systematics* 21: 13-55.
- Fridolfsson, A.-K. & Ellegren, H. 1999. A simple and universal method for molecular sexing of non-ratite birds. *Journal of Avian Biology* 30: 116-121.
- Fritz, H., Guillemain, M. & Guérin, S. 2000. Changes in the frequency of prospecting fly-overs by Marsh Harriers *Circus aeruginosus* in relation to short-term fluctuations in dabbling duck abundance. *Ardea* 88: 9-16.
- Fujioka, M., Don Lee, S., Kurechi, M. & Yoshida, H. 2010. Bird use of rice fields in Korea and Japan. *Waterbirds* 33: 8-29.
- Fuller, M.R. & Mosher, J.A. 1981. Methods of Detecting and Counting Raptors: A Review. *Studies in Avian Biology* 6: 235-246.
- Galushin, V., Clarke, R. & Davygora, A. 2003. *International Action Plan for the Pallid Harrier (Circus macrourus)*. BirdLife International, Strasbourg, France.
- García, J.T. & Arroyo, B.E. 2001. Effect of abiotic factors on reproduction in the centre and periphery of breeding ranges: a comparative analysis in sympatric harriers. *Ecography* 24: 393-402.
- García, J.T. & Arroyo, B.E. 2002. Intra- and interspecific agonistic behaviour in sympatric harriers during the breeding season. *Animal Behaviour* 64: 77-84.

-
- García, J.T. & Arroyo, B.E. 2005. Food-niche differentiation in sympatric Hen Harriers *Circus cyaneus* and Montagu's Harriers *Circus pygargus*. *Ibis* 147: 144-154.
- Gaston, K.J. & Blackburn, T.M. 1996. Conservation implications of geographic range size-body size relationships. *Conservation Biology* 10: 638-646.
- Gehring, T.M. & Swihart, R.K. 2003. Body size, niche breadth, and ecological scaled responses to habitat fragmentation: mammalian predators in an agricultural landscape. *Biological Conservation* 109: 283-295.
- Gerhardt, R.P., Gerhardt, D.M. & Vasquez, M.A. 1997. Siblingicide in Swallow-tailed Kites. *Wilson Bulletin* 109: 112-120.
- Gessaman, J.A. 1987. *Energetics*. In Giron Pendelton, B.A., Milsap, B.A., Clire, W. & Bird, D.M. (eds.) *Raptor management techniques manual*. National Wildlife Federation Scientific and Technical Series Number 10, Institute for Wildlife Research, Washington DC, U.S.A. Pp. 289-320.
- Gil-Tena, A., Torras, O. & Saura, S. 2008. Relationships between forest landscape structure and avian species richness in Ne Spain. *Ardeola* 55: 27-40.
- Gillespie, T.W. 2001. Application of extinction and conservation theories for forest birds in Nicaragua. *Conservation Biology* 15: 699-709.
- Gliwicz, J. 2008. Body size relationships between avian predators and their rodent prey in a North-American sagebrush community. *Acta Ornithologica* 43: 151-158.
- Goodwin, B.J. 2003. Is landscape connectivity a dependent or independent variable? *Landscape Ecology* 18: 687-699.
- Gotelli, N. & Colwell, R.K. 2001. Quantifying biodiversity: Procedures and pitfalls in the measurement and comparison of species richness. *Ecology Letters* 4: 379-391.
- Götmark, F., Blomqvist, D., Hohansson, O.C. & Bergkvist, J. 1995. Nest site selection: a trade-off between concealment and view of the surroundings? *Journal of Avian Biology* 26: 305-312.
- Grande, J.M., Serrano, D., Tavecchia, G., Carrete, M., Ceballos, O., Diaz-Delgado, R., Tella, J.L. & Donazar, J.A. 2009. Survival in a long-lived territorial migrant: effects of life-history traits and ecological conditions in wintering and breeding areas. *Oikos* 118: 580-590.
- Gray, L.C. 2005. What kind of intensification? Agricultural practice, soil fertility and socioeconomic differentiation in rural Burkina Faso. *Geographical Journal* 171: 70-82.
- Gray, S.J., Jensen, S.P. & Hurst, J.L. 2000. Structural complexity of territories: preference, use of space and defence in commensal house mice, *Mus domesticus*. *Animal Behaviour* 60: 765-772.
- Green, A.A. & Sayer, J.A. 1979. The birds of Pendjari and Arli national parks (Benin and Upper Volta). *Malimbus* 1: 14-28.
- Green, B., Dryden, G. & Dryden, K. 1991. Field energetics of a large carnivorous lizard, *Varanus rosenbergi*. *Oecologia* 88: 547-555.
- Green, R.H. 1979 *Sampling design and statistical methods for environmental biologists*. John Wiley & Sons, Inc., New York, U.S.A.
- Gregory, P.A. 1982. Swallow-tailed Kite associating with cattle. *Ostrich* 53: 221.
- Griffin, C.R., Paton, P.W. & Baskett, T.S. 1998. Breeding ecology and behavior of the Hawaiian Hawk. *Condor* 100: 654-662.
- Gschwend, M., Kalko, E.K.V., Querner, U., Fiedler, W. & Berthold, P. 2008. All across Africa: highly individual migration routes of Eleonora's falcon. *Proceedings of the Royal Society of London series B* 275: 2887-2896.
- Guitard, J.J. & Reynaud, P.A. 2008. Concentration de Nauciers d'Afrique *Chelictinia riocourii* près de Niono, Mali. *Malimbus* 30: 170-172.
- Hake, M., Kjellén, N. & Alerstam, T. 2001. Satellite tracking of Swedish Ospreys *Pandion haliaetus*: autumn migration routes and orientation. *Journal of Avian Biology* 32: 47-56.
- Hake, M., Kjellén, N. & Alerstam, T. 2003. Age dependent migration strategy in honey buzzards *Pernis apivorus* tracked by satellite. *Oikos* 103: 385-396.
- Hardin, J.W. & Hilbe, J.M. 2003. *Generalized Estimating Equations*. Chapman and Hall/CRC, Boca Raton, Florida, U.S.A.
- Harris, S., Cresswell, W.J., Forde, P.G., Trehwella, W.J., Woollard, T. & Wray, S. 1990. Home range analysis using radio-tracking data: a review of problems and techniques particularly as applied to the study of mammals. *Mammal Review* 20: 97-123.
- Harrison, J.F. & Fewell, J.H. 1995. Thermal effects on feeding behavior and net energy intake in a grasshopper experiencing large diurnal fluctuations in body temperature. *Physiological Zoology* 68: 453-473.
- Hawthornthwaite, D.L. & Katlin-Arroyo, M.T. 1995. Magnitude and distribution of biodiversity. In Heywood, V.H.

-
- (ed.) *Global biodiversity assessment*. United Nations Environment Programme. Cambridge University Press, Cambridge, U.K.
- Heinrigs, P. & Perret, C. 2006. *The Ecologically Vulnerable Zone of Sahelian countries*. Regional Atlas on West Africa. Sahel and West Africa Club, OECD, Paris, France.
- Heiss, R.S., Clark, A.B. & McGowan, K.J. 2009. Growth and nutritional state of American Crow nestlings vary between urban and rural habitats. *Ecological Applications* 19: 829-839.
- Held, I.M., Delworth, T.L., Lu, J., Findell, K.L. & Knutson, T.R. 2005. Simulation of Sahel drought in the 20th and 21st centuries. *Proceedings of the National Academy of Sciences U.S.A.* 102: 891-896.
- Herholdt, J.J. & Kemp, A.C. 1997. Breeding status and ecology of the Martial Eagle in the Kalahari Gemsbok National Park, South Africa. *Ostrich* 68: 80-85.
- Herremans, M. & Herremans-Tonnoeyr, D. 2000. Land use and conservation status of raptors in Botswana. *Biological Conservation* 94: 31-41.
- Hipkiss, T., Hörnfeldt, B., Eklund, U. & Berlin, S. 2002. Year dependent sex-biased mortality in supplementary-fed Tengmalm's owl nestlings. *Journal of Animal Ecology* 71: 693-699.
- Hiraldo, F., Veiga, J.P. & Máñez, M. 1990. Growth of nestling black kite (*Milvus migrans*): effects of hatching order, weather, and time of season. *Journal of Zoology (London)* 222: 197-214.
- Hivekovics, A. & Palatitz, P. 1998. Summary of a study by Hungarian ornithologists on Mount Cameroon. *Bulletin of the African Bird Club* 5: 97-100.
- Hoffman, M. et al. 2010. The Impact of Conservation on the Status of the World's Vertebrates. *Science* 330: 1503-1509.
- Homewood, K., Lambin, E.F., Kariuki, A., Kikula, I., Kivelia, J., Said, M.Y., Serneels, S. & Thompson, M. 2001. Long-term changes in Serengeti-Mara wildebeest and land cover: pastoralism, population, or policies? *National Academy of Sciences, U.S.A.* 98: 12544-49.
- Hulme, M., Doherty, R.M., Ngara, T., New, M.G. & Lister, D. 2001. African climate change: 1900-2100. *Climate Research* 17: 145-168.
- Husby, M. 1986. On the adaptive value of brood reduction in birds: experiments with the magpie *Pica pica*. *Journal of Animal Ecology* 55: 75-83.
- Hustler, K. & Howells, W.W. 1990. The influence of primary production on a raptor community in Hwange National Park, Zimbabwe. *Journal of Tropical Ecology* 6: 343-354.
- IUCN 2012. *The IUCN Red List of Threatened Species*. Version 2012.1. <http://www.iucnredlist.org>. Accessed 19 June 2012.
- Jaksic, F.M. & Braker, H.M. 1983. Food-niche relationships and guilds structure of diurnal birds of prey: competition versus opportunism. *Canadian Journal of Zoology*: 2230-2241.
- James, P.C. & Smith, A.R. 1987. Food habits of urban-nesting merlins, *Falco columbarius*, in Edmonton and Fort Saskatchewan, Alberta. *The Canadian Field-Naturalist* 101: 592- 594.
- Jehle, G., Yackel-Adams, A.A., Savidge, J.A. & Skagen, S.K. 2004. Nest survival estimation: a review of alternatives to the Mayfield estimator. *Condor* 106: 472-484.
- Jensen, F.P., Christensen, K.D. & Petersen, B.S. 2007. The avifauna of southeast Niger. *Malimbus* 30: 30-54.
- Jensen, W.J., Gregory, M.S., Baldassarre, G.A., Vilella, F.J. & Bildstein, K.L. 2005. Raptor abundance and distribution in the Llanos wetlands of Venezuela. *Journal of Raptor Research* 39: 409-420.
- Jiang, J. 2007. *Linear and generalized linear mixed models and their applications*. Springer Verlag, Germany.
- Johnson, D.H. 1980. The comparison of usage and availability measurements for evaluating resource preference. *Ecology* 61: 65-71.
- Johnson, D.J. 1979. Estimating nest success: the Mayfield method and an alternative. *Auk* 96: 651-661.
- Johnson, J.A., Watson, R.T. & Mindell, D.P. 2005. Prioritizing species conservation: does the Cape Verde kite exist? *Proceedings of the Royal Society of London Series B* 272: 1365-1371.
- Jones, P., Vickery, J., Holt, S. & Cresswell, W. 1996. A preliminary assessment of some factors influencing the density and distribution of palearctic passerine migrants wintering in the Sahel zone of West Africa. *Bird Study* 43: 73-84.
- Jost, L. 2006. Entropy and diversity. *Oikos* 113: 363-375.
- Jullien, M. & Thiollay, J.-M. 1996. Effects of rain forest disturbance and fragmentation: comparative changes of the raptor community along natural and human-made gradients in French Guiana. *Journal of Biogeography* 23: 7-25.
- Kahn, N.W., John, J. & Quinn, T.W. 1998. Chromosome-specific intron size differences in the avian CHD gene provide an efficient method for sex identification in birds. *Auk* 115: 1074-1078.
- Kamil, A.C., Krebs, J.R. & Pulliam, H.R. 1987 *Foraging Behaviour*. Plenum Press, New York, U.S.A.
- Kaufman, G.A. & Whitfield Gibbons, J.W. 1975. Weight-Length Relationships in Thirteen Species of Snakes in

-
- the Southeastern United States. *Herpetologica* 31: 31-37.
- Keith, J.O. & Bruggers, R.L. 1998. Review of hazards to raptors from pest control in Sahelian Africa. *Journal of Raptor Research* 32: 151-158.
- Kendall, C.J. & Virani, M.Z. 2012. Assessing mortality of African vultures using wing tags and GSM-GPS transmitters. *Journal of Raptor Research* 46: 135-140.
- Kennedy, P.L. & Johnson, D.R. 1986. Prey-size selection in nesting male and female Cooper's Hawks. *The Wilson Bulletin* 98: 110-115.
- Kenward, R.E. 1982. Goshawk hunting behaviour, and range size as a function of food and habitat availability. *Journal of Animal Ecology* 51: 69-80.
- Kenward, R.E., Marcstrom, V. & Karlbom, M. 1981. Goshawk winter ecology in Swedish pheasant habitats. *Journal of Wildlife Management* 45: 397-408.
- Kerr, J.T. & Packer, L. 1997. Habitat heterogeneity as a determinant of mammal species richness in high-energy regions. *Nature* 385: 252-254.
- King, M. 2000. Breeding of Swallow-tailed Kite *Chelictinia riocourii* in Senegal. *Malimbus* 2: 90-91.
- Kisiel, D.S. 1972. Effect of two sizes of Sherman traps on success in trapping *Peromyscus* and *Reithrodontomys*. *American Midland Naturalist* 87: 551-552.
- Kitowski, I. 2003. Age related differences in foraging behavior of Montagu's harrier *Circus pygargus* males in south-east Poland. *Acta Ethologica* 6: 35-38.
- Kitowski, I. 2009. Social learning of hunting skills in juvenile marsh harriers *Circus aeruginosus*. *Journal of Ethology* 27: 327-332.
- Kleindorfer, S., Fessl, B. & Hoi, H. 2005. Avian nest defence behaviour: assessment in relation to predator distance and type, and nest height. *Animal Behaviour* 69: 307-313.
- Komdeur, J., Daan, S., Tinbergen, J.M. & Mateman, C. 1997. Extreme adaptive modification in sex ratio of the Seychelles warbler's eggs. *Nature* 385: 522-525.
- Koplin, J.R. 1973. Differential habitat use by sexes of American Kestrels wintering in northern California. *Journal of Raptor Research* 7: 39-42.
- Koplin, J.R., Collopy, M.W., Bammann, A.R. & Levenson, H. 1980. Energetics of Two Wintering Raptors. *The Auk* 97: 795-806.
- Kotler, B.P., Brown, J.S. & Hasson, O. 1991. Factors affecting gerbil foraging behavior and rates of owl predation. *Ecology* 72: 2249-2260.
- Kramer, R., van Schaik, C. & Johnson, J. 1997. Last stand: Protected areas and the defense of tropical biodiversity. Oxford University Press, New York, U.S.A.
- Lack, D. 1946. Competition for food by birds of prey. *Journal of Animal Ecology* 15: 123-129.
- Lack, D. 1947. The significance of clutch size. *Ibis* 89: 302-352.
- Lack, D. 1954. *The natural regulation of animal numbers*. Clarendon, Oxford, U.K.
- Lack, D. 1971 *Ecological isolation in birds*. Harvard University Press, Cambridge, Mass. and Blackwell, Oxford, U.K.
- Lamarche, B. 1980. Liste commentée des oiseaux du Mali. *Malimbus* 2: 121-158.
- Lamarche, B. 1987. Liste commentée des oiseaux de Mauritanie. Unpublished report. Nouakchott, Mauritania.
- Lamarche, B. 1988. Liste commentée des oiseaux de Mauritanie. *Études Sahariennes et Ouest-Africaines* 1: 1-162. Privately published, Nouakchott, Mauritania & Paris, France.
- Lambin, E.F., Geist, H.J. & Lepers, E. 2003. Dynamics of land use and land cover change in tropical regions. *Annual Review of Environment and Resources* 28: 205-241.
- Lefebvre, L., Whittle, P., Lascaris, E. & Finkelstein, A. 1997. Feeding innovations and forebrain size in birds. *Animal Behavior* 53: 549-560.
- Levins, R. 1968. *Evolution in changing environments*. Princeton University Press, Princeton, U.S.A.
- Limíñana, R., Soutullo, A., Arroyo, B. & Urios, V. 2012. Protected areas do not fulfill the wintering habitat needs of the trans-Saharan migratory Montagu's Harrier. *Biological Conservation* 145: 62-69.
- Littell, R.C., Pendergast, J. & Natarajan, R. 2000. Modelling covariance structure in the analysis of repeated measures data. *Statistics in Medicine* 19: 1793-1819.
- Lopez-Lopez, P., Liminana, R., Mellone, U. & Urios, V. 2010. From the Mediterranean Sea to Madagascar. Are there ecological barriers for the long-distance migrant Eleonora's falcon? *Landscape Ecology* 25: 803-813.
- Loth, P. 2004. *The Return of the Water: Restoring the Waza Logone Floodplain in Cameroon*. IUCN, Gland, Switzerland and Cambridge, U.K.
- Louette, M. 1981. The birds of Cameroon. An annotated check-list. *Verhandelingen Koninklijke Academie Brussel (Klasse Wetenschappen)* 43: 1-295.

-
- Lourenço, P.M. 2009. Rice field use by raptors in two Portuguese wetlands. *Airo* 19: 13-18.
- MacArthur, R.H. & Pianka, E.R. 1966. On optimal use of a patchy environment. *American Naturalist* 100: 603-609.
- Machange, R.W., Jenkins, A.R. & Navarro, R.A. 2005. Eagles as indicators of ecosystem health: is the distribution of Martial Eagle nests in the Karoo, South Africa, influenced by variation in land-use and rangeland quality? *Journal of Arid Environments* 63: 223-243.
- Mader, W.J. 1982. Ecology and breeding habits of the Savanna Hawk in the llanos of Venezuela. *Condor* 84: 261-271.
- Magurran, A.E. 1988. *Ecological diversity and its measurement*. Princeton University Press, Princeton, U.S.A.
- Malan, G. & Robinson, E.R. 2001. Nest-site selection by Black Sparrowhawks *Accipiter melanoleucus*: implications for managing exotic pulpwood and sawlog forests in South Africa. *Environmental Management* 28: 195-205.
- Manson, R.H. & Stiles, E.W. 1998. Links between microhabitat preferences and seed predation by small mammals in old fields. *Oikos* 82: 37-50.
- Mao, C.X., Colwell, R.K. & Chang, J. 2005. Estimating species accumulation curves using mixtures. *Biometrics* 61: 433-441.
- Margalida, A., Bertran, J., Boudet, J. & Heredia, R. 2004. Hatching asynchrony, sibling aggression, and cannibalism in the Bearded Vulture *Gypaetus barbatus*. *Ibis* 146: 386-393.
- Margules, C.R. & Pressey, R.L. 2000. Systematic conservation planning. *Nature* 405: 243-253.
- Marquiss, M. & Newton, I. 1982. A radio-tracking study of the ranging behaviour and dispersion of European Sparrowhawks (*Accipiter nisus*). *Journal of Animal Ecology* 51: 111-133.
- Marra, P.P. & Holberton, R.P. 1998. Corticosterone levels as indicators of habitat quality: Effects of habitat segregation in a migratory bird during the non-breeding season. *Oecologia* 116: 284-292.
- Marti, C.D., Bechard, M.J. & Jaksic, F.M. 2007. Food habits. In Bird, D.M. & Bildstein, K.L. (eds.) *Raptor research and management techniques*. Hancock House, Surrey, U.K. Pp. 129-151.
- Marti, C.D., Steenhof, K., Kochert, M.N. & Marks, J.S. 1993. Community trophic structure: the roles of diet, body size, and activity time in vertebrate predators. *Oikos* 67: 6-19.
- Martin, T.G., Chadès, I., Arcese, P., Marra, P.P., Possingham, H.P. & Norris, D.R. 2007. Optimal conservation of migratory species. *PLoS ONE* 2: e751.
- Martin, T.G., Wintle, B.A., Rhodes, J.R., Kuhnert, P.M., Field, S.A., Low-Choy, S.J., Tyre, A.J. & Possingham, H.P. 2005. Zero tolerance ecology: improving ecological inference by modelling the source of zero observations. *Ecology Letters* 8: 1235-1246.
- Martínez, J.E. & Calvo, J.F. 2005. Prey partitioning between mates in breeding booted eagles (*Hieraetus pennatus*). *Journal of Raptor Research* 39: 159-163.
- Martínez-López, E., Romero, D., Maria-Mojica, P., Martínez, J.E., Calvo, J.F. & García-Fernández, A.J. 2009. Changes in blood pesticide levels in Booted Eagle (*Hieraetus pennatus*) associated with agricultural land practices. *Ecotoxicology and Environmental Safety* 72: 45-50.
- Masman, D., Gordijn, M., Daan, S. & Dijkstra, C. 1986. Bioenergetics of the kestrel, *F. tinnunculus*: the variability of natural intake rates. *Ardea* 74: 24-38.
- Matthews, G., Matthews, A., Wiles, T. & Baleguel, P. 2003. A survey of pesticide application in Cameroon. *Crop Protection* 22: 707-714.
- Mayaka, T.B. 2002. *Value Wildlife! An Ecological and Economic Assessment of Wildlife Use in Northern Cameroon*. PhD thesis, Leiden University, the Netherlands.
- Mayaka, T.B., Hendricks, T., Wesseler, T. & Prins, H.H.T. 2005. Improving the benefits from wildlife harvesting in Northern Cameroon: a co-management perspective. *Ecological Economics* 54: 67-80.
- Mayfield, H. 1975. Suggestions for calculating nest success. *Wilson Bulletin* 87: 456-466.
- McCullagh, P. & Nelder, J.A. 1989. *Generalized Linear Models*. Chapman and Hall, London, U.K.
- McDonald, P.G. 2003. Nestling growth and development in the brown falcon *Falco berigora*: a new method of sex determination and an improved ageing formula. *Wildlife Research* 30: 411-418.
- McDonald, P.G., Olsen, P.D. & Cockburn, A. 2005. Sex allocation and nestling survival in a dimorphic raptor: does size matter? *Behavioral Ecology* 16: 922-930.
- McDonald, R.I. & Boucher, T.M. 2011. Global development and the future of the protected area strategy. *Biological Conservation* 144: 383-392.
- McElhinny, T., Smale, L. & Holekamp, K. 1997. Patterns of Body Temperature, Activity, and Reproductive Behavior in a Tropical Murid Rodent, *Arvicanthis niloticus*. *Physiology & Behavior* 62: 91-96.
- McGrady, M.J., Nicoll, M.A.C. & Thorpe, A.W. 2009. *Report on fieldwork to study the status and distribution of breeding sooty falcons (Falco concolor) on the northern islands of Oman*. Unpublished report. Natural

-
- Research Ltd. & Centre for Agri-Environmental Research, Reading University, U.K.
- Mebs, T. 1964. Zur Biologie und Populationsdynamik des Mäusebussards (*Buteo buteo*) unter besonderer Berücksichtigung der Abhängigkeit vom Massenwechsel der Feldmaus (*Microtus arvalis*). *Journal of Ornithology* 105: 247-306.
- Mebs, T. & Schmidt, D. 2006. *Die Greifvögel Europas, Nordafrikas und Vorderasiens*. Kosmos Verlag, Germany.
- Meik, J.M., Jeo, R.M., Mendelsson III, J.R. & Jenks, K.E. 2002. Effects of bush encroachment on an assemblage of diurnal lizard species in central Namibia. *Biological Conservation* 106: 29-36.
- Meininger, P.L., Duiven, P., Marteiijn, E.C.L. & van Spanje, T.M. 1990. Notable bird observations from Mauritania. *Malimbus* 12: 19-24.
- Mendelsohn, J. 1984. The timing of breeding in Black-shouldered Kites in southern Africa. *Proceedings of the Pan-African Ornithological Congress* 5: 799-808.
- Meunier, F.D., Verheyden, C. & Jouventin, P. 2000. Use of roadsides by diurnal raptors in agricultural landscapes. *Biological Conservation* 92: 291-298.
- Meyburg, B-U. 1974. Sibling aggression and mortality among nestling eagles. *Ibis* 116: 224-228.
- Meyburg, B.-U., Mendelson, J.M., Ellis, D.H., Smith, D.G., Meyburg, C. & Kemp, A.C. 1995. Year-round movements of a Wahlbergs Eagle *Aquila wahlbergi* tracked by satellite. *Ostrich* 66: 135-140.
- Mihoub, J.-B., Gimenez, O., Pilard, P. & Sarrazin, F. 2010. Challenging conservation of migratory species: Sahelian rainfalls drive first-year survival of the vulnerable Lesser Kestrel *Falco naumanni*. *Biological Conservation* 143: 839-849.
- Millennium Ecosystem Assessment 2005. *Ecosystems and Human Well-being: Synthesis*. Island Press, Washington D.C., U.S.A.
- Mills, G.S. 1976. American Kestrel sex ratios and habitat separation. *Auk* 93: 740-748.
- Millsap, B.A. & Lefranc Jr., M.N. 1988. Road transect counts for raptors: how reliable are they? *Journal of Raptor Research* 22: 8-16.
- Mitchell, M.S., Rutzmoser, S.H., Wigley, T.B., Loehle, C., Gerwin, J.A., Keyser, P.D., Lancia, R.A., Perry, R.W., Reynolds, C.J., Thill, R.E., Weih, R., White, D. & Wood, P.B. 2006. Relationships between avian richness and landscape structure at multiple scales using multiple landscapes. *Forest Ecology and Management*: 221: 155-169.
- Mock, D.W. 1984. Infanticide, siblicide, and avian nestling mortality. In Hausfater, G. & Blaffer Hrdy, S. (eds.) *Infanticide: comparative and evolutionary perspectives*. Aldine, New York, U.S.A. Pp. 2-30.
- Mock, D.W. 1985. Siblicidal brood reduction: The prey-size hypothesis. *American Naturalist* 125: 327-343.
- Mock, D.W., Lamey, T.C., Williams, C.F. & Pelletier, A. 1987. Flexibility in the development of heron sibling aggression: An intraspecific test of the prey-size hypothesis. *Animal Behaviour* 35: 1386-1393.
- Mock, D.W. & Parker, G.A. 1997. *The Evolution of Sibling Rivalry*. Oxford University Press, Oxford, U.K.
- Moreau, R.E. 1972. *The Palaearctic-African bird migration systems*. Academic Press, London, U.K.
- Morel, G. & Roux, F. 1966. Les migrateurs paléarctiques au Sénégal. *Terre Vie* 20: 43-176.
- Morel, G.J. & Morel, M.-Y. 1992. Habitat use by Palaearctic migrant passerine birds in West Africa. *Ibis* 134 (Suppl.): 83-88.
- Mortimore, M. & Turner, B. 2005. Does the Sahelian smallholders' management of woodland, farm trees, rangeland support the hypothesis of human-induced desertification? *Journal of Arid Environments* 63: 567-595.
- Morton, E.S., Lynch, J.F., Young, K. & Melhop, P. 1987. Do male Hooded Warblers exclude females from nonbreeding territories in tropical forest? *Auk* 104: 133-135.
- Mougeot, F. & Bretagnolle, V. 2006. Breeding biology of the Red Kite *Milvus milvus* in Corsica. *Ibis* 148: 436-448.
- Moss, D. 1976. *Woodland songbird populations and growth of nestling Sparrowhawks*. PhD thesis, Edinburgh University, U.K.
- Moss, D. 1979. Growth of nestling sparrowhawks (*Accipiter nisus*). *Journal of Zoology* 187: 297-314.
- Moulton, C.E., Brady, R.S. & Belthoff, J.R. 2005. A comparison of breeding season food habits of burrowing owls nesting in agricultural and nonagricultural habitat in Idaho. *Journal of Raptor Research* 39: 421-430.
- Mühlner, S., Kormann, U., Schmidt-Entling, M.H., Herzog, F. & Bailey, D. 2010. Structural versus functional habitat connectivity measures to explain bird diversity in fragmented orchards. *Journal of Landscape Ecology* 3: 52-63.
- Muller, K.L., Stamps, J.A., Krishnan, V.V. & Willits, N.H. 1997. The effects of conspecific attraction and habitat quality on habitat selection in territorial birds (*Troglodytes aedon*). *American Naturalist* 150: 650-661.
- Mullié, W.C. 2009. Birds, locusts and grasshoppers. In Zwarts, L., Bijlsma, R.G., van der Kamp, J. & Wymenga, E. (eds.) *Living on the edge: Wetlands and birds in a changing Sahel*. KNNV Publishing, Zeist, the

- Netherlands. Pp. 202-221.
- Mulli , W.C., Brouwer, J. & Albert, C. 1992. Gregarious behaviour of African Swallow-tailed Kite *Chelictinia riocourii* in response to high grasshopper densities near Ouallam, western Niger. *Malimbus* 14: 19-21.
- Mulli , W.C. & Gu ye, Y. 2010. Does Bird Predation Enhance the Impact of Green Muscle (*Metarhizium acridum*) used for Grasshopper Control? *Journal of Orthoptera Research* 19: 139-155.
- Mulli , W.C., Verwey, P.J., Berends, A.G., Sene, F. & Koeman, J.H. 1991. Impact of Furan 3G (Carbofuran) applications on aquatic macro-invertebrates in irrigated rice in Senegal. *Archives of Environmental Contamination and Toxicology* 20: 177-182.
- Mundy, P.J., Ledger, J.A. & Friedman, R. 1992. *The vultures of Africa*. Academic Press, London, U.K.
- Murphy, P.G. & Lugo, A.E. 1986. Ecology of tropical dry forest. *Annual Review of Ecology and Systematics* 17: 67-88.
- Musters, C.J.M., de Graaf, H.J. & ter Keurs, W.J. 2000. Can protected areas be expanded in Africa? *Science* 287: 1759-1760.
- Nagy, K.A. 1987. Field metabolic rates and food requirement scaling in mammals and birds. *Ecological Monographs* 57: 111-128.
- Nagy, K.A. 2005. Field metabolic rate and body size. *The Journal of Experimental Biology* 208: 1621-1625.
- Nagy, K.A., Huey, R.B. & Bennett, A.F. 1984. Field Energetics and Foraging Mode of Kalahari Lacertid Lizards. *Ecology* 65: 588-596.
- Naorji, R. 2006. *Birds of prey of the Indian subcontinent*. Christopher Helm, London, U.K.
- Simmons, R.E. 2000. *Harriers of the World: Their behaviour and ecology*. Oxford Ornithology Series, U.K.
- Negro, J.J., Chastin, A. & Bird, D.M. 1994. Effects of short-term food deprivation on growth of hand-reared American Kestrels. *Condor* 96: 749-760.
- Newmark, W.D. 2008. Isolation of African protected areas. *Frontiers in Ecology and the Environment* 6: 321-328.
- Newton, I. 1979. *Population Ecology of Raptors*. T. & A.D. Poyser, Berkhamsted, U.K.
- Newton, I. 1986. *The Sparrowhawk*. T. & A.D. Poyser, Berkhamsted, U.K.
- Newton, I. 1998. *Population Limitation in Birds*. Academic Press, London, U.K.
- Newton, I. 2003. The role of natural factors in the limitation of bird prey numbers: a brief review of the evidence. In Thompson, D.B.A., Redpath, S.M., Fielding, A.H., Marquiss, M. & Galbraith, C.A. (eds.) *Birds of prey in a changing environment*. Scottish Natural Heritage, Edinburgh, Scotland, U.K. Pp. 5-24.
- Newton, I., Marquiss, M. & Moss, D. 1979. Habitat, Female Age, Organo-Chlorine Compounds and Breeding of European Sparrowhawks. *Journal of Applied Ecology* 16: 777-793.
- Newton, I., Marquiss, M., Weir, D.N. & Moss, D. 1977. Spacing of Sparrowhawk nesting territories. *Journal of Animal Ecology* 46: 425-441.
- NiBDaB (Niger Bird Data Base) 2010. <http://www.bromus.net/nibdab/>. Accessed 25 August 2010.
- Nieboer, E. 1973. *Geographical and ecological differentiation in the genus Circus*. PhD thesis, Vrije Universiteit Amsterdam, the Netherlands.
- Nishimura, K. 1991. Utilization of different prey type patches in the Ural Owl (*Strix uralensis*): a sit-and-wait predator. *Behavioral Ecology* 2: 99-105.
- Nishimura, K. 1994. Decision making of a sit-and-wait forager in an uncertain environment: learning and memory load. *American Naturalist* 143: 656-676.
- Njiforti, H.L. 1997. *The Biology and Management of Wild Helmeted Guineafowl (Numidia meleagris galeata Pallas) in the Waza region of North Cameroon*. PhD thesis, Wageningen Agricultural University, the Netherlands.
- Njilima, F., Kyonjola, N. & Wolstencroft, J. 2010. *Tanzania Vultures Basline Survey Report*. Unpublished report, WCS, Tanzania.
- Njomaha, C. 2004. *Agricultural change, food production and sustainability in the Far North of Cameroon*. PhD thesis, Leiden University, the Netherlands.
- Norris, D.R. 2005. Carry-over effects and habitat quality in migratory populations. *Oikos* 109: 178-186.
- Oba, Y., Shintani, T., Nakamura, T., Ojika, M. & Inouye, S. 2008. Determination of the luciferin contents in luminous and non-luminous beetles. *Bioscience, Biotechnology, and Biochemistry* 72: 1384-1387.
- O'Connor, R.J. 1978. Growth strategies in nestling passerines. *Living Bird* 16: 209-238.
- O'Connor, R.J. 1984 *The growth and development of birds*. Wiley, Chichester, U.K.
- Odihi, J. 2003. Deforestation in afforestation priority zone in Sudano-Sahelian Nigeria. *Applied Geography* 23: 227-259.
- Odino, M. 2010. Measuring the conservation threat to birds in Kenya from deliberate pesticide poisoning. In Richards, N. (ed.) *Carbofuran and Wildlife Poisoning: Global Perspectives and Forensic Approaches*. John Wiley & Sons Ltd, Chichester, U.K. Pp. 53-70.

- Ogada, D.L. & Buij, R. 2011. Decline of the Hooded Vulture *Necrosyrtes monachus* across its African range. *Ostrich* 82: 101-113.
- Ogada, D.L. & Keesing, F. 2010. Decline of raptors over a three-year period in Laikipia, central Kenya. *Journal of Raptor Research* 44: 129-135.
- Ogada, D.L. & Kibuthu, P.M. 2009. Impacts of agriculture on the diet and productivity of Mackinder's Eagle Owls (*Bubo capensis mackinderi*) in Kenya. *Biotropica* 41: 485-492.
- Ogada, D.L., Thomsett, S., Virani, M.Z., Kendall, C. & Odino, M. 2010. *Raptor road counts in Kenya: with emphasis on vultures*. Unpublished report by the Raptor Working Group of Nature Kenya to the Royal Society for Protection of Birds (RSPB).
- Olsen, P. & Olsen, J. 1987. Estimating the age of nestling raptors. *Australian Bird Watcher* 12: 130-131.
- Olson, S. 1999. *Land and tree legislation and local knowledge in the region of Guidar, Northern Cameroon: Perceptions of locals and land use professionals*. PhD thesis, University of Idaho, U.S.A.
- Opdam, P. 1975. Intra- and interspecific differentiation with respect to the feeding ecology in two sympatric species of the genus *Accipiter*. *Ardea* 63: 30-54.
- Ottichilo, W.K., de Leeuw, J., Skidmore, A.K., Prins, H.H.T. & Said, M.Y. 2000. Population trends of large non-migratory wild herbivores and livestock in the Masai Mara ecosystem, Kenya, between 1977 and 1997. *African Journal of Ecology* 38: 202-16.
- Ouedraogo, I., Tigabu, M., Savadogo, P., Compaoré, H., Odén, P.C. & Ouadba, J.M. 2010. Land cover change and its relation with population dynamics in Burkina Faso, West Africa. *Land Degradation & Development* 21: 453-462.
- Owens, I.P.F. & Bennett, P.M. 2000. Ecological basis of extinction risk in birds: habitat loss versus human persecution and introduced predators. *Proceedings of the National Academy of Sciences, U.S.A.* 97: 12144-12148.
- Palomino, D. & Carrascal, L.M. 2007. Habitat associations of a raptor community in a mosaic landscape of central Spain under urban development. *Landscape and Urban Planning* 83: 268-274.
- Pande, S., Pawashe, A., Mahajan, M.N. & Joglekar, C. 2007. Effect of food and habitat on breeding success in Spotted Owlets (*Athene brama*) nesting in villages and rural landscapes in India. *Journal of Raptor Research* 41: 26-34.
- Pandolfino, E.R., Herzog, M.P., Hooper, S.L. & Smith, Z. 2011. Winter habitat associations of diurnal raptors in California's Central Valley. *Western Birds* 42: 62-84.
- Paré, S., Söderberg, U., Sandewall, M. & Ouadba, J.M. 2008. Land use analysis from spatial and field data capture in southern Burkina Faso, West Africa. *Agriculture, Ecosystems & Environment* 127: 277-285.
- Payton, M.E., Greenstone, M.H. & Schenker, N. 2004. Overlapping confidence intervals or standard error intervals: what do they mean in terms of statistical significance. *Journal of Insect Science* 3: 34.
- Peach, W., Baillie, S.R. & Underhill, L. 1991. Survival of British Sedge Warblers *Acrocephalus schoenobaenus* in relation to West African rainfall. *Ibis* 133: 300-305.
- Penteriani, V. & Faivre, B. 1997. Breeding density and landscape-level habitat selection of Common Buzzards (*Buteo buteo*) in a mountain area (Abruzzo Apennines, Italy). *Journal of Raptor Research* 31: 208-212.
- Penteriani, V., Gallardo, M. & Roche, P. 2002. Landscape structure and food supply affect Eagle Owl (*Bubo bubo*) density and breeding performance: a case of intra-population heterogeneity. *Journal of Zoology (London)* 257: 365-372.
- Pereira, H.M., Daily, G.C. & Roughgarden, J. 2004. A framework for assessing the relative vulnerability of species to land-use change. *Ecological Applications* 14: 730-742.
- Petit, L.J., Petit, D.R., Christian, D.G. & Powell, H.D.W. 1999. Bird communities of natural and modified habitats in Panama. *Ecography* 22: 292-304.
- Pianka, E.R. 1973. The structure of lizard communities. *Annual Review of Ecology & Systematics* 4: 53-74.
- Picozzi, N. 1980. Food, growth, survival and sex ratio of nestling Hen Harriers *Circus c. cyaneus* in Orkney. *Ornis Scandinavica* 11: 1-11.
- Pilard, P., Jarry, G. & Lelong, V. 2009. Suivi et conservation du dortoir de Faucons crécerelletes et d'Elanions naucleur de la région de Kaolack (Sénégal). In P. Pilard (Ed.) *Actes du VII Congrès International sur le Faucon crécerellette 2009*. LPO Service Edition, Almendralejo, Spain. Pp. 159-161.
- Pilard, P., Lelong, V., Sonko, A. & Riols, C. 2011. Suivi et conservation du dortoir de rapaces insectivores (Faucon crécerellette *Falco naumanni* et Elanion naucleur *Chelictinia riocourii*) de l'île de Kousmar (Kaolack, Sénégal). *Alauda* 79: 295-312.
- Poulet, A.R. 1985. The ecological basis of forecasting rodent outbreaks in a Sahelian agrosystem. *Acta Zoologica Fennica* 173: 107-111.
- Preston, C.R. 1990. Distribution of raptor foraging in relation to prey biomass and habitat structure. *Condor* 92:

- 107-112.
- Pulliam, H.R. 2000. On the relationship between niche and distribution. *Ecology Letters* 3: 349-361.
- Radford, J.Q. & Bennett, A.F. 2004. Thresholds in landscape parameters: occurrence of the white-browed treecreeper *Climacteris affinis* in Victoria, Australia. *Biological Conservation* 117: 375-391.
- Reij, C., Tappan, G. & Belemvire, A. 2005. Changing land management practices and vegetation in the Central Plateau of Burkina Faso (1968-2002). *Journal of Arid Environments* 63: 642-659.
- Remsen Jr., J.V., Swan, M.M., Cardiff, S.W. & Rosenberg, K.V. 1991. The importance of the rice-growing region of south-central Louisiana to winter populations of raptors, waders, and other birds. *Journal of Louisiana Ornithology* 1: 35-47.
- Rice, W.R. 1989. Analyzing tables of statistical tests. *Evolution* 43: 223-225.
- Richter, W. 1983. Balanced sex ratios in dimorphic altricial birds: the contribution of sex-specific growth dynamics. *American Naturalist* 121: 158-171.
- Ricklefs, R.E. 1967. A graphical method of fitting equations to growth curves. *Ecology* 48: 978-983.
- Ricklefs, R.E. 1968. Patterns of growth in birds. *Ibis* 110: 419-451.
- Ricklefs, R.E. 1983. Avian postnatal development. In Farner, D.S., King, J.R. & Parkes, K.C. (eds.) *Avian biology*, vol VII. Academic Press, New York, U.S.A. Pp 1-83.
- Riedstra, B., Dijkstra, C. & Daan, S. 1998. Daily energy expenditure of male and female marsh harrier nestlings. *Auk* 115: 635-641.
- Ristow, D. & Wink, M. 2004. Seasonal variation in sex ratio of nestling Eleonora's Falcons. *Journal of Raptor Research* 38: 320-325.
- Rodríguez, C. & Bustamante, J. 2003. The effect of weather on Lesser Kestrel breeding success: can climate change explain historical population decline? *Journal of Animal Ecology* 72: 793-810.
- Rodríguez, A., García, A.M., Cervera, F. & Palacios, V. 2006. Landscape and anti-predation determinants of nest-site selection, nest distribution and productivity in a Mediterranean population of Long-eared Owls *Asio otus*. *Ibis* 148: 133-145.
- Rodríguez, C., Johst, K. & Bustamante, J. 2006. How do crop types influence breeding success in Lesser Kestrels through prey quality and availability? A modelling approach. *Journal of Applied Ecology* 43: 576-586.
- Rodríguez-Estrella, R., Donazar, J.A. & Hiraldo, F. 1998. Raptors as indicators of environmental change in the scrub habitat of Baja California Sur, Mexico. *Conservation Biology* 12: 921-925.
- Rodwell, S.P., Sauvage, A., Rumsey, S.J.R. & Bräunlich, A. 1996. An annotated check-list of birds occurring at the Parc National des Oiseaux du Djoudj in Senegal, 1984-1994. *Malimbus* 18: 74-111.
- Rondeau, G., Moussa Condeé, M., Ahon, B., Diallo, O. & Pouakouyou, D. 2008. Survey of the occurrence and relative abundance of raptors in Guinea subject to international trade. Joint Nature Conservation Committee. Peterborough, U.K. JNCC Report No. 412.
- Rosenfield, R.N., Bielefeldt, J. & Vos, S.M. 1996. Skewed sex ratios in Cooper's hawk offspring. *Auk* 113: 957-960.
- Rotella, J.J., Dinsmore, S.J. & Shaffer, T.L. 2004. Modelling nest-survival data: a comparison of recently developed methods that can be implemented in MARK and SAS. *Animal biodiversity and Conservation* 27: 187-205.
- Ruelle, P. & Bruggers, R.L. 1982. Traditional approaches for protecting cereal crops from birds in Africa. *Proceedings of the Vertebrate Pest Conference* 10: 80-86.
- Salvati, L., Manganaro, A., Fattorini, S. & Piattella, E. 1999. Population features of Kestrels *Falco tinnunculus* in urban, suburban and rural areas in central Italy. *Acta Ornithologica* 34: 53-58.
- Salvatori, V., Eguny, F., Skidmore, A.K., de Leeuw, J. & van Gils, H.A.M. 2001. The effects of fire and grazing pressure on vegetation cover and small mammal populations in the Maasai Mara National Reserve. *African Journal of Ecology* 39: 200-204.
- Salwski, V. 2000. The birds of the Comoé National Park, Ivory Coast. *Malimbus* 22: 55-75.
- Sánchez-Zapata, J.A. & Calvo, J.F. 1999. Raptor distribution in relation to landscape composition in semiarid Mediterranean habitats. *Journal of Applied Ecology* 36: 254-262.
- Sánchez-Zapata, J.A., Carrete, M., Gravirov, A., Sklyarenko, S., Ceballos, O., Donazar, J.A. & Hiraldo, F. 2003. Land use changes and raptor conservation in steppe habitats of eastern Kazakhstan. *Biological Conservation* 111: 71-77.
- Sánchez-Zapata, J.A., Donazar, J.A., Delgado, A., Forero, M., Ceballos, O. & Hiraldo, F. 2007. Desert locust outbreaks in the Sahel: resource competition predation and ecological effects of pest control. *Journal of Applied Ecology* 44: 323-329.
- Sanderson, F.J., Donald, P.F., Pain, D.J., Burfield, I.J. & van Bommel, F.P.J. 2006. Long-term population declines in Afro-Palearctic migrant birds. *Biological Conservation* 131: 93-105.

- Sauvage, A. & Rodwell, S.P. 1998. Notable observations of birds in Senegal (ex-cluding Parc National des Oiseaux du Djoudj), 1984-1994. *Malimbus* 20: 75-122.
- Schaub, M., Kania, W. & Köppen, U. 2005. Variation of primary production during winter induces synchrony in survival rates in migratory white storks *Ciconia ciconia*. *Journal of Animal Ecology* 74: 656-666.
- Schipper, W.J.A. 1973. A comparison of prey selection in sympatric harriers, *Circus*, in western Europe. *Gerfaut* 63: 17-120.
- Schipper, W.J.A. 1977. Hunting in three European Harriers (*Circus*) during the breeding season. *Ardea* 65: 53-72.
- Schipper, W.J.A., Buurma, L.S. & Bossenbroek, P.H. 1975. Comparative study of hunting behavior of wintering hen harriers *Circus cyaneus* and marsh harriers *Circus aeruginosus*. *Ardea* 63: 1-29.
- Scholte, P.T. 1998. Status of vultures in the Lake Chad Basin, with special reference to Northern Cameroon and Western Chad. *Vulture News* 39: 3-19.
- Scholte, P.T. 2003. Immigration: a potential time bomb under the integration of conservation and development. *AMBIO: A Journal of the Human Environment* 32: 58-64.
- Scholte, P.T. 2005. *Floodplain rehabilitation and the future of conservation & development: adaptive management of success in Waza-Logone, Cameroon*. PhD thesis, Leiden University, the Netherlands.
- Scholte, P.T. & Brouwer, J. 2008. The Relevance of Key Resource Areas for Large-scale Movements of Livestock. In Prins, H.H.T. & van Langevelde, F. (eds.) *Resource Ecology: Spatial and Temporal Dynamics of Foraging*. Wageningen UR Frontis series, vol 23, the Netherlands. Pp. 211-232.
- Scholte, P.T., de Kort, S. & van Weerd, M. 1999. The birds of the Waza-Logone area, Far North province, Cameroon. *Malimbus* 21: 16-50.
- Scholte, P.T., Kirda, P., Saleh, A. & Kadiri, B. 2000. Floodplain rehabilitation in North Cameroon: Impact on vegetation dynamics. *Applied Vegetation Science* 3: 33-42.
- Schultz, S., Bradbury, R.B., Evans, K.L., Gregory, R.D. & Blackburn, T.M. 2005. Brain size and resource specialization predict long-term population trends in British birds. *Proceedings of the Royal Society of London Series B* 272: 2305-2311.
- Secor, S.M. & Nagy, K.A. 1994. Bioenergetic Correlates of Foraging Mode for the Snakes *Crotalus Cerastes* and *Masticophis Flagellum*. *Ecology* 75: 1600-1614.
- Selås, V. 1997. Nest-site selection by four sympatric forest raptors in southern Norway. *Journal of Raptor Research* 31: 16-25.
- Sergio, F., Blas, J., López, L., Tanferna, A., Díaz-Delgado, R., Donázar, J.A. & Hiraldo, F. 2011. Coping with uncertainty: Breeding adjustments to an unpredictable environment in an opportunistic raptor. *Oecologia* 166: 79-90.
- Sergio, F. & Bogliani, G. 2000. Hobby nest-site selection and productivity in relation to intensive agriculture and forestry. *Journal of Wildlife Management* 64: 637-646.
- Sergio, F., Caro, T., Brown, D., Clucas, B., Hunter, J., Ketchum, J., McHugh, K. & Hiraldo, F. 2008. Top predators as conservation tools: ecological rationale, assumptions, and efficacy. *Annual Review of Ecology, Evolution and Systematics* 9: 1-19.
- Sergio, F. & Hiraldo, F. 2008. Intraguild predation in raptor assemblages: a review. *Ibis* 150: 132-145.
- Sergio, F., Marchesi, L. & Pedrini, P. 2003. Spatial refugia and the coexistence of a diurnal raptor with its intraguild owl predator. *Journal of Animal Ecology* 72: 232-245.
- Sergio, F., Marchesi, L. & Pedrini, P. 2004. Integrating individual habitat choices and regional distribution of a biodiversity indicator and top predator. *Journal of Biogeography* 31: 619-628.
- Sergio, F., Newton, I., Marchesi, L. & Pedrini, P. 2006. Ecologically justified charisma: preservation of top predators delivers biodiversity conservation. *Journal of Applied Ecology* 43: 1049-55.
- Sergio, F. & Penteriani, V. 2005. Public information and territory establishment in a loosely colonial raptor. *Ecology* 86: 340-346.
- Serneels, S. & Lambin, E.F. 2001. Impact of land-use change on the wildebeest migration in the northern part of the Serengeti- Mara ecosystem. *Journal of Biogeography*: 391-407.
- Sheffield, L.M., Crait, J.R., Edge, W.D. & Wang, G. 2001. Response of American kestrels and gray-tailed voles to vegetation height and supplemental perches. *Canadian Journal of Zoology* 79: 380-385.
- Sicard, B., Fuminier, F., Maurel, D. & Boissin, J. 1993. Temperature and water conditions mediate the effects of day length on the breeding cycle of a Sahelian rodent, *Arvicanthis niloticus*. *Biology of Reproduction* 49: 716-722.
- Simmons, R.E. 1988. Offspring quality and the evolution of cannibalism. *Ibis* 130: 339-357.
- Simmons, R.E. 2000. *Harriers of the world*. Oxford University Press, Oxford, U.K.
- Simmons, R.E. 2002. Siblicide provides food benefits for raptor chicks: re-evaluating brood manipulation studies. *Animal Behavior* 63: F19-F24.

-
- Sinclair, A.R.E., Mduma, S.A.R. & Arcese, P. 2002. Protected areas as biodiversity benchmarks for human impact: Agriculture and the Serengeti avifauna. *Proceedings of the Royal Society of London Series B* 269: 2401-2405.
- Smallwood, J.A. 1987. Sexual segregation by habitat in American Kestrels (*Falco sparverius*) wintering in southcentral Florida: vegetative structure and responses to differential prey availability. *Condor* 89: 842-849.
- Smallwood, J.A. 1988. A mechanism of sexual segregation by habitat in American Kestrels (*Falco sparverius*) wintering in south-central Florida. *Auk* 105: 36-46.
- Söderström, B., Kiema, S. & Reid, R.S. 2003. Intensified agricultural land use and bird conservation in Burkina Faso. *Agriculture, Ecosystems and Environment* 99: 113-124.
- Sol, D., Lefebvre, L. & Rodríguez-Teijeiro, J.D. 2005. Brain size, innovative propensity and migratory behaviour in temperate Palearctic birds. *Proceedings of the Royal Society of London Series B* 272: 1433-1441.
- Sol, D., Garcia, N., Iwaniuk, A., Davis, K., Meade, A., Boyle, W.A. & Székely, T. 2010. Evolutionary Divergence in Brain Size between Migratory and Resident Birds. *PLoS ONE* 5: e9617. doi:10.1371/journal.pone.0009617
- Sorley, C.S. & Andersen, D.E. 1994. Raptor abundance in south-central Kenya in relation to land-use patterns. *African Journal of Ecology* 32: 30-38.
- Stechert, C. 2011. *Application of pesticides in cotton cultivation in Benin and their impact on non-target organisms*. PhD thesis, Technische Universität Braunschweig, Germany.
- Steenhof, K., Kochert, M.N., Carpenter, L.B. & Lehman, R.H. 1999. Long-term Prairie Falcon population changes in relation to prey abundance, weather, land uses, and habitat conditions. *Condor* 101: 28-41.
- Steenhof, K. & Newton, I. 2007. Assessing raptor nest success and productivity. In Bird, D.M. & Bildstein, K.L. (eds.) *Raptor Research and Management Techniques*. Surrey, British Columbia, Canada and Blaine, WA, Hancock House, U.S.A. Pp 181-192.
- Stephens, D.W. & Krebs, J.R. 1986. *Foraging theory*. Princeton University Press, Princeton, U.S.A.
- Steyn, P. 1982. *Birds of prey of southern Africa. Their identification and life histories*. David Philip, Cape Town, South Africa.
- Stinson, C.H., Crawford, D.L. & Lauthner, J. 1981. Sex differences in winter habitat of American Kestrels in Georgia. *Journal of Field Ornithology* 52: 29-35.
- Storer, R.W. 1966. Sexual dimorphism and food habits in three North American Accipiters. *Auk* 83: 423-436.
- Strandberg, R., Klaassen, H.G., Hake, M., Olofsson, P., Thorup, K. & Alerstam, T. 2008. Complex timing of Marsh Harrier *Circus aeruginosus* migration due to pre- and post-migratory movements. *Ardea* 96: 159-171.
- Strandberg, R. & Olofsson, P. 2007. Bird observations in Mali. *Malimbus* 29: 123-125.
- Stronach, N.R.H. 1991. Wintering harriers in Serengeti National Park, Tanzania. *African Journal of Ecology* 29: 90-92.
- Suárez, S., Balbontín, J. & Ferrer, M. 2000. Nesting habitat selection by booted eagles *Hieraetus pennatus* and implications for management. *Journal of Applied Ecology* 37: 215-223.
- Sutton, J., Sutton, A., Dewhurst, C.F. & Dewhurst, L.M. 1984. A confirmed breeding record for the Swallow-tailed Kite in the Rift Valley of Kenya. *East African Natural History Society Bulletin* 1984: 12.
- Swihart, R.K., Gehring, T.M., Kolozsvary, M.B. & Nupp, T.E. 2003. Responses of 'resistant' vertebrates to habitat loss and fragmentation: the importance of niche breadth and range boundaries. *Diversity & Distributions* 9: 1-18.
- Swihart, R.K., Lusk, J.J., Duchamp, J.E., Rizkalla, C.E. & Moore, J.E. 2006. The role of landscape context, niche breadth, and range boundaries in predicting species responses to habitat alteration. *Diversity & Distributions* 12: 277-287.
- Szép, T. 1995. Relationship between West African rainfall and the survival of central European Sand Martins *Riparia riparia*. *Ibis* 137: 162-168.
- Tappan, G.G., Sall, M., Wood, E.C. & Cushing, M. 2004. Ecoregions and land cover trends in Senegal. *Journal of Arid Environments* 59: 427-462.
- Tchamba, M.N. 1996. History and present status of the human/elephant conflict in the Waza Logone Region, Cameroon, West Africa. *Biological Conservation* 75: 35-41.
- Tella, J.L. & Forero, M.G. 2000. Farmland habitat selection of wintering Lesser Kestrels in a Spanish pseudosteppe: implications for conservation strategies. *Biodiversity and Conservation* 9: 433-441.
- Temeles, E.J. 1986. Reversed sexual size dimorphism: effect on resource defense and foraging behaviors of nonbreeding Northern Harriers. *Auk* 103: 70-78.
- Temeles, E.J. 1987. The relative importance of prey availability and intruder pressure in feeding territory size

- regulation by Harriers, *Circus cyaneus*. *Oecologia* 74: 286-297.
- Tende, T. & Ottosson, U. 2008. The current Status of Vultures in Yankari. *Vulture News* 59: 7-12.
- Terborgh, J. 1999. *Requiem for Nature*. Island Press, Washington, D.C., U.S.A.
- Terraube, J., Arroyo, B., Madders, M. & Mougeot, F. 2011. Diet specialisation and foraging efficiency under fluctuating vole abundance: a comparison between generalist and specialist avian predators. *Oikos* 120: 234-244.
- Terraube, J., Mougeot, F., Cornulier, T., Verma, A., Gavrilo, A. & Arroyo, B. 2012. Broad wintering range and intercontinental migratory divide within a core population of the near-threatened pallid harrier. *Diversity & Distributions* 18: 401-409.
- Thiollay, J.-M. 1970. Les rapaces du Parc National du Niokolo Koba. Données préliminaires. *L'Oiseau et la revue française d'ornithologie* 40: 115-130.
- Thiollay, J.-M. 1975a. Les rapaces des parcs nationaux du Tchad méridional. *L'Oiseau et la revue française d'ornithologie* 45: 27-40.
- Thiollay, J.-M. 1975b. Les rapaces des parcs nationaux de cote d'Ivoire. Analyse du peuplement. *L'Oiseau et la revue française d'ornithologie* 45: 241-257.
- Thiollay, J.-M. 1976. Les Rapaces d'une zone de contact savane-forêt en Côte d'Ivoire: modalités et succès de la reproduction. *Alauda* 44: 275-300.
- Thiollay, J.-M. 1977a. Distribution saisonnière des rapaces diurnes en Afrique occidentale. *L'Oiseau et la revue française d'ornithologie* 47: 253-285.
- Thiollay, J.-M. 1977b. Le peuplement de falconiformes d'une savane Ougandaise: structure et fluctuations a court terme. *L'Oiseau et la revue française d'ornithologie* 47: 193-205.
- Thiollay, J.-M. 1978a. Les migration de rapaces en Afrique occidentale: adaption écologiques aux fluctuations saisonnières de production des écosystèmes. *Terre et la Vie* 32: 89-133.
- Thiollay, J.-M. 1978b. Les plaines du nord Cameroun: centre d'hivernage de rapaces Palearctiques. *Alauda* 46: 319-326.
- Thiollay, J.-M. 1978c. Population structure and seasonal fluctuations of the falconiformes in Uganda National Parks. *East African Wildlife Journal* 16: 145-151.
- Thiollay, J.-M. 1989. Distribution and ecology of Palearctic birds of prey wintering in West and Central Africa. In Meyburg, B.-U. & Chancellor, R.D. (eds.) *Raptors in the Modern World*. WWGBP, Berlin, Germany. Pp. 95-107.
- Thiollay, J.-M. 2000. Stability and long-term changes in a West African raptor community. In Chancellor, R.D. & Meyburg, B.-U. (eds.) *Raptors at Risk*. WWGBP, Berlin, Germany. Pp. 15-25.
- Thiollay, J.-M. 2001. Long-term changes of raptor populations in northern Cameroon. *Journal of Raptor Research* 35: 173-186.
- Thiollay, J.-M. 2006a. The decline of raptors in West Africa: long-term assessment and the role of protected areas. *Ibis* 148: 240-254.
- Thiollay, J.-M. 2006b. Large bird declines with increasing human pressure in savanna woodlands (Burkina Faso). *Biodiversity and Conservation* 15: 2085-2108.
- Thiollay, J.-M. 2006c. Severe decline of large birds in the Northern Sahel of West Africa: a long-term assessment. *Bird Conservation International* 16: 353-365.
- Thiollay, J.-M. 2007a. Raptor declines in West Africa: comparisons between protected, buffer and cultivated areas. *Oryx* 41: 322-329.
- Thiollay, J.-M. 2007b. Raptor population decline in West Africa. *Ostrich* 78: 405-413.
- Thiollay, J.-M. & Clobert, J. 1990. Comparative foraging adaptations of small raptors in a dense African savanna. *Ibis* 132: 42-57.
- Thiollay, J.-M., Thiollay, F. & Karuiki, C. 2008. Report on raptor roadside counts in Northern Tanzania, 1-19 February 2008. Unpublished report to the Peregrine Fund.
- Thirgood, S.J., Redpath, S.M. & Grahah, I.M. 2003. What determines the foraging distribution of raptors on heather moorland? *Oikos* 100: 15-24.
- Thomas, L., Laake, J.L., Rexstad, E., Strindberg, S., Marques, F.F.C., Buckland, S.T., Borchers, D.L., Anderson, D.R., Burnham, K.P., Burt, M.L., Hedley, S.L., Pollard, J.H., Bishop, J.R.B. & Marques, T.A. 2006. *Distance 6.0 Release Beta 1*. Research Unit for Wildlife Population Assessment, University of St. Andrews, U.K.
- Thorstrom, R. & Quixchán, A. 2000. Breeding biology and nest site characteristics of the Bicolored Hawk in Guatemala. *Wilson Bulletin* 112: 195-202.
- Tingay, R.E. 2008. Steppe Eagle (*Aquila nipalensis*) foraging behaviour in Mongolia: a combined use of divisionary and covert ambush tactics? *Journal of Raptor Research* 42: 155-156.

-
- Toland, B. 1986. Hunting success of some Missouri raptors. *Wilson Bulletin* 98: 116-125.
- Tome, D. 2003. Nest site selection and predation driven despotic distribution of breeding long-eared owls *Asio otus*. *Journal of Avian Biology* 34: 150-154.
- Trierweiler, C. 2010. *Travels to feed and food to breed: The annual cycle of a migratory raptor, Montagu's Harrier, in a modern world*. PhD thesis, University of Groningen, the Netherlands.
- Trierweiler, C. & Koks, B.J. 2009. Montagu's Harrier. In Zwartz, L., Bijlsma, R.G., van der Kam, J. & Wymenga, E. (eds.) *Living on the edge. Birds and wetlands in a changing Sahel*. KNNV Uitgeverij, Zeist, the Netherlands. Pp. 312-327.
- Trierweiler, C., Koks, B.J., Drent, R.H., Exo, K.M., Komdeur, J., Dijkstra, C. & Bairlein, F. 2007. Satellite tracking of two Montagu's Harriers (*Circus pygargus*) dual pathways during autumn migration. *Journal of Ornithology* 148: 513-516.
- Trierweiler, C., Mullié, W.C., Drent, R.H., Exo, K-M, Komdeur, J., Bairlein, F., Harouna, A., De Bakker, M. & Koks, B.J. In press. A Palaearctic migratory raptor species tracks shifting prey availability within its wintering range in the Sahel. *Journal of Animal Ecology*.
- Tucker, G.M. & Heath, M.F. 1994. *Birds in Europe: their conservation status*. BirdLife International, Cambridge, U.K.
- Turner, M.D. & Hiernaux, P. 2008. Changing access to labor, pastures, and knowledge: The extensification of grazing management in Sudano-Sahelian West Africa. *Human Ecology* 26: 59-80.
- UN World Population Prospects 2010. <http://www.un.org/esa/population/>. Accessed 10 April 2012.
- Ursúa, E., Serrano, D. & Tella, J.L. 2005. Does land irrigation actually reduce foraging habitat for breeding Lesser Kestrels? The role of crop types. *Biological Conservation* 122: 643-648.
- US Congress, Office of Technology Assessment 1990. *A Plague of locusts - Special Report*. OTA-F-450. Washington DC, US Govt Printing Office.
- Van de Koppel, J. & Rietkerk, M. 2000. Herbivore regulation and irreversible vegetation change in semi-arid grazing systems. *Oikos* 90: 253-260.
- Vanak, A.T. & Gompper, M.E. 2009. Dietary niche separation between sympatric free-ranging domestic dogs and Indian foxes in central India. *Journal of Mammalogy* 90: 1058-1065.
- Vanak, A.T. & Gompper, M.E. 2010. Interference competition at the landscape level: the effect of free-ranging dogs on a native mesocarnivore. *Journal of Applied Ecology* 47: 1225-1232. doi: 10.1111/j.1365-2664.2010.01870.x
- Vasquez, R.A., Ebensperger, L.A. & Bozinovic, F. 2002. The influence of habitat on travel speed, intermittent locomotion, and vigilance in a diurnal rodent. *Behavioral Ecology* 13: 182-187.
- Vibe-Petersen, S., Leirs, H. & De Bruyn, L. 2006. Effects of predation and dispersal on *Mastomys natalensis* population dynamics in Tanzanian maize fields. *Journal of Animal Ecology* 75: 213-220.
- Viñuela, J. 1996. Establishment of mass hierarchies in broods of the black kite *Milvus migrans*. *Condor* 98: 93-99.
- Viñuela, J. 1999. Sibling aggression, hatching asynchrony, and nestling mortality in the black kite (*Milvus migrans*). *Behavioral Ecology and Sociobiology* 45: 33-45.
- Virani, M.Z. & Harper, D.M. 2009. Factors influencing the breeding performance of the Augur Buzzard *Buteo augur* in southern Lake Naivasha, Rift Valley, Kenya. *Ostrich* 80: 9-17.
- Virani, M., Kendall, C., Njoroge, P. & Thomsett, S. 2011. Major declines in the abundance of vultures and other scavenging raptors in and around the Masai Mara ecosystem, Kenya. *Biological Conservation* 144: 746-752.
- Virani, M. & Watson, R.T. 1998. Raptors in the East African tropics and Western Indian Ocean Islands: State of ecological knowledge and conservation status. *Journal of Raptor Research* 32: 28-39.
- Wakeley, J.S. 1978. Factors affecting the use of hunting sites by Ferruginous Hawks. *Condor* 80: 316-326.
- Walls, S.S. & Kenward, R.E. 2007. Spatial tracking. Radio tracking. In Bird, D.M. & Bildstein, K.L. (eds.) *Raptor research and management techniques*. Hancock House, Surrey, British Columbia, Canada. Pp. 237-241.
- Waloff, Z. 1966. The upsurges and recessions of the Desert Locust plague, an historical survey. Anti-Locust Memoirs No. 8, London, United Kingdom.
- Walter, H. 1979. The sooty falcon (*Falco concolor*) in Oman: results of a breeding survey. *Journal of Oman Studies* 5: 9-59.
- Ward Jr., J.P., Gutiérrez, R.J. & Noon, B.R. 1998. Habitat selection by Northern Spotted Owls: the consequences of prey selection and distribution. *Condor* 100: 79-92.
- Ward, P. & Zahavi, A. 1973. The importance of certain assemblages of birds as "information centres" for food finding. *Ibis* 115: 517-534.
- Wardell, D.A., Reenberg, A. & Tøttrup, C. 2003. Historical footprints in contemporary land use systems: forest

- cover changes in savannah woodlands in the Sudano-Sahelian zone. *Global Environmental Change-Human and Policy Dimensions* 13: 235-254.
- Warkentin, I.G. & James, P.C. 1990. Winter-roost site selection by urban Merlins (*Falco columbarius*). *Journal of Raptor Research* 24: 5-11.
- Wasiolka, B. & Blaum, N. 2011. Comparing biodiversity between protected savanna and adjacent non-protected farmland in the southern Kalahari. *Journal of Arid Environments* 75: 836-841.
- Wasiolka, B., Blaum, N., Jeltsch, F. & Henschel, J. 2009. Behavioural responses of the lizard *Pedioplanis l. lineocellata* to overgrazing. *Acta Oecologica* 35: 157-162.
- World Conservation Monitoring Centre 1983. <http://www.biologie.uni-hamburg.de/b-online/afrika/wcmc/waza.htm>. Accessed 25 December 2011.
- Weesie, P.D.M. & Belemsobgo, U. 1997. Les rapaces diurnes du Ranch de Gibier de Nazinga (Burkina Faso): liste commentée, analyse du peuplement et cadre biogéographique. *Alauda* 65: 263-278.
- Weladji, R.B. & Tchamba, M.N. 2003. Conflict between people and protected areas within the Bénoué Wildlife Conservation Area, North Cameroon. *Oryx* 37: 72-79.
- Welsh, A.H., Cunningham, R.B., Donnelly, C.F. & Lindenmayer, D.B. 1996. Modelling the abundance of rare species: statistical models for counts with extra zeros. *Ecological Modelling* 88: 297-308.
- Wezel, A. & Rath, T. 2002. Resource conservation strategies in agro-ecosystems of semi-arid West Africa. *Journal of Arid Environments* 51: 383-400.
- Wiens, J.A. 1989. Spatial scaling in ecology. *Functional Ecology* 3: 385-397.
- Wilson, J.M. & Cresswell, W. 2006. How robust are Palearctic migrants to habitat loss and degradation in the Sahel? *Ibis* 148: 789-800.
- White, F. 1983. *The vegetation of Africa: a descriptive memoir to accompany the Unesco/AETFAT/UNSO vegetation map of Africa*. Unesco, Paris, France.
- White, G.C. & Burnham, K.P. 1999. Program MARK: Survival Estimation from Populations of Marked Animals. *Bird Study* 46: S120-S139.
- Whitfield, D.P., Fielding, A.H., Mcleod, D.R.A. & Howarth, P.F. 2004. The effects of persecution on age of breeding and territory occupation in Golden Eagles in Scotland. *Biological Conservation* 118: 249-259.
- Wichmann, M.C., Jeltsch, F., Dean, W.R.J., Moloney, K.A. & Wissel, C. 2003. Implication of climate change for the persistence of raptors in arid savanna. *Oikos* 102: 186-202.
- Widen, P. 1989. The hunting habitats of goshawks *Accipiter gentilis* in boreal forests of central Sweden. *Ibis* 131: 205-213.
- Widen, P. 1994. Habitat quality for raptors: a field experiment. *Journal of Avian Biology* 25: 219-223.
- Wiebe, K.L. & Bortolotti, G.R. 1992. Facultative sex ratio manipulation in American kestrels. *Behavioral Ecology and Sociobiology* 30: 379-386.
- Wiebe, K.L. & Bortolotti, G.R. 1995. Food-dependent benefits of hatching asynchrony in American Kestrels *Falco sparverius*. *Behavioral Ecology and Sociobiology* 36: 49-57.
- Wilkie, D.S., Curran, B., Tshombe, R. & Morelli, G.A. 1998. Modeling the sustainability of subsistence farming and hunting in the Ituri Forest of Zaire. *Conservation Biology* 12: 137-47.
- Williams, J.B., Anderson, M.D. & Richardson, P.R.K. 1997. Seasonal differences in field metabolism, water requirements, and foraging behavior of free-living aardwolves. *Ecology* 78: 2588-2602.
- Wilson, J.M. & Cresswell, W. 2006. How robust are Palearctic migrants to habitat loss and degradation in the Sahel? *Ibis* 148: 789-800.
- Wittenberger, J.F. & Hunt, G.L. 1985. The adaptive significance of coloniality in birds. In Farner, D.S., King, J.R. & Parkes, K.C. (eds.) *Avian Biology*, vol. 8. Academic Press, San Diego, U.S.A. Pp. 1-78.
- Wood, E.C., Tappan, G.G. & Hadj, A. 2004. Understanding the drivers of agricultural land use change in south-central Senegal. *Journal of Arid Environments* 59: 565-582.
- World Bank 2009. *Awakening Africa's Sleeping Giant: Prospects for Commercial Agriculture in the Guinea Savannah Zone and Beyond*. Published by FAO and World Bank.
- World Bank 2012. Population data. <http://data.worldbank.org/indicator/SP.POP.TOTL>
- Zalles, J.I. & Bildstein, K.L. 2000. *Raptor Watch: global directory of raptor migration sites*. Birdlife International, Cambridge, U.K., and Hawk Mountain Sanctuary, Kempton, PA, U.S.A. (Birdlife Conservation Series No. 9).
- Zuberogitia, I. & Martínez, J.E. 2011. *Forest raptors: conservation, ecology, behaviour and management implications*. Vizcaya Foral Diputación, Bilbao, Spain.
- Zwarts, L., van Beukering, P., Kone, B. & Wymenga, E. 2005. *Le Niger, une artère vitale. Gestion efficace de l'eau dans le Bassin du Haut Niger*. RIZA, Lelystad/Wetlands International, Sévaré/Institute for

Environmental Studies (IVM), Amsterdam/A&W conseillers écologiques, Veenwouden, Mali/the Netherlands.

Zwarts, L., Bijlsma, R.G., van der Kamp, J. & Wymenga, E. 2009. *Living on the edge. Wetlands and birds in a changing Sahel*. KNNV Uitgeverij, Utrecht, the Netherlands.