

African lion (*Panthera leo leo*)

Reference list

1. Antunes A., Troyer J. L., Roelke M. E., Pecon-Slattery J., Packer C., Winterbach C., Winterbach H., Hemson G., Frank L., Stander P., Siefert L., Driciru M., Funston P.J., Alexander K. A., Prager K.C., Mills G., Wildt D., Bush M., O'Brien S. J. & Johnson W. E. 2008. The evolutionary dynamics of the lion *Panthera leo* revealed by host and viral population genomics. *PLoS Genetics* 4.
2. Barnett R., Yamaguchi N., Shapiro B., Ho S. Y., Barnes I., Sabin R., Werdelin L., Cuisin J. & Larson G. 2014. Revealing the maternal demographic history of *Panthera leo* using ancient DNA and a spatially explicit genealogical analysis. *Evolutionary Biology* 14 (70), 1-11.
3. Barnett R., Shapiro B., Barnes I., Ho S. Y. W., Burger J., Yamaguchi N., Higham T. F., Wheeler H. T., Rosendahl W., Sher A. V., Sotnikova M., Kuznetsova T., Baryshnikov G. F., Martin L. D., Harington C. R., Burns J. A. & Cooper A. 2009. Phylogeography of lions (*Panthera leo* ssp.) reveals three distinct taxa and a late Pleistocene reduction in genetic diversity. *Molecular Ecology* 18, 1668–1677.
4. Barnett R., Yamaguchi N., Barnes I. & Cooper A. 2006. The origin, current diversity and future conservation of the modern lion (*Panthera leo*). *Proceedings of the Royal Society B-Biological Sciences* 273, 2119–2125.
5. Barnett R., Yamaguchi N., Barnes I. & Cooper A. 2006a. Lost populations and preserving genetic diversity in the lion *Panthera leo*: implications for its ex situ conservation. *Conservation Genetics* 7, 507-514.
6. Bauer H. 2003. Lion conservation in West and central Africa; integrating social and natural science for wildlife conflict resolution around Waza National Park, Cameroon. Institute for Environmental Sciences, Leiden University. 160 pp.
7. Bauer H., de longh H. & Sogbohossou E. 2010. Assessment and mitigation of human-lion conflict in West and Central Africa. *Mammalia* 74, 363-367.
8. Bauer H., Packer C., Funston P. F., Henschel P. and Nowell K. 2015. *Panthera leo*. The IUCN Red List of Threatened Species. Version 2015.2. <www.iucnredlist.org>.
9. Bauer H., Chardonnet P. & Nowell K. 2005. Status and distribution of the lion (*Panthera leo*) in East and Southern Africa. Background paper for the East and Southern African lion Conservaiton Workshop. Johannesburg, South Africa. 28 pp.
10. Bauer H., Chardonnet P., Nowell K. & Crosmay W. 2005. Status and distribution of the lion (*Panthera leo*) in West and Central Africa. Background paper for the West and Central African Lion Conservation Workshop. Douala, Cameroon. 61 pp.
11. Bauer H. & Nowell K. 2004. Endangered classification for West African Lions. *Cat News* 41, 35-36.
12. Bauer H. & van der Merwe S. 2004. Inventory of free-ranging lions *Panthera leo* in Africa. *Oryx* 38, 26-31.
13. Bauer H., de longh H. H., Princee F. P. G. & Ngantou D. 2003. Research needs for lion conservation in West and Central Africa. *Comptes Rendus Biol* 326, 112–118.
14. Bauer H., Nowell K. & Packer C. 2008. *Panthera leo*. IUCN Red List of Threatened Species, version 2011.2 ed. <http://www.iucnredlist.org/apps/redlist/details/15951/0>. Accessed 12 Apr 2012.
15. Becker M., McRobb R., Watson F., Droege E., Kanyembo B., Murdoch J. & Kakumbi C. 2013. Evaluating wire-snare poaching trends and the impacts of by-catch on elephants and large carnivores. *Biological Conservation* 158, 36-48.
16. Becker M. S., Watson F. G. R., Droege E., Leigh K., Carlson R. S. & Carlson A. A. 2013. Estimating past and future male loss in three Zambian lion populations. *The Journal of Wildlife Management* 771, 128-42.
17. Bertola L., van Hooft W., Vrieling K., Uit de Weerd D., York D. & de longh H. H. 2011. Genetic

- diversity, evolutionary history and implications for conservation of the lion (*Panthera leo*) in West and Central Africa. *Journal of Biogeography* 38(7), 1356-1367.
18. Bjorklund M. 2003. The risk of inbreeding due to habitat loss in the lion (*Panthera leo*). *Conservation Genetics* 4, 515–523.
 19. Bertram B. C. R. 1975. The social system of lions. *Scientific American* 232, 54-65.
 20. Bertram B. C. R. 1975. Social factors influencing reproduction in wild lions. *J. Zool. Lond.* 177, 463-482.
 21. Bygott J. D., Bertram B. C. R. & Hanby J. P. 1979. Male lions in large coalitions gain reproductive advantages. *Nature* 282, 839-841.
 22. 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.
 23. Chardonnet P. 2002. Conservation of the African lion: contribution to a status survey. International Foundation for the Conservation of Wildlife, France.
 24. Craft M. E., Volz E., Packer C. & Meyers L. A. 2009. Distinguishing epidemic waves from disease spill over in a wildlife population. *Proceedings of the Royal Society Biological Sciences* 276, 1777–1785.
 25. Creel S. & Creel N. M. 1997. Lion density and population structure in the Selous Game Reserve: Evaluation of hunting quotas and offtake. *African Journal of Ecology* 35, 83–93.
 26. Croes B. M, Funston P. J., Rasmussen G., Buij R., Saleh A., Tumenta P. N. & de longh H.H. 2011. The impact of trophy hunting on lions (*Panthera leo*) and other large carnivores in the Bénoué Complex, northern Cameroon. *Biological Conservation* 144, 3064-3072.
 27. De Boer W. F., Vis M. J. P, De Knegt H. J., Rowles C., Kohi E. M., van Langevelde F., Peel M., Pretorius Y., Skidmore A. K., Slotow R., van Wieren S. E. & Prins H. H. T. 2010. Spatial distribution of lion kills determined by the water dependency of prey species. *Journal of Mammalogy* 91, 1280-1286.
 28. de longh H., Tumenta P., Croes B., Funston P., Bauer H. & De Haes H. U. 2009. Threat of a lion population extinction in Waza National Park, North Cameroon. *Cat News* 50, 26-7.
 29. de Pienaar U. 1969. Predator-prey relationships amongst the larger mammals of the Kruger National Park. *Koedoe* 12, 108-176.
 30. Davidson Z., Valeix M., Loveridge A., Madzikanda H. & Macdonald D. 2011. Socio-spatial behaviour of an African lion population following perturbation by sport hunting. *Biol Conserv* 144, 114-121.
 31. Dubach J. M., Briggs M. B., White P. A., Ament B. A. & Patterson B. D. 2013. Genetic perspectives on “Lion Conservation Units” in Eastern and Southern Africa. *Conservation Genetics*: 1-15.
 32. Dubach J., Patterson B. D., Briggs M. B., Venzke K., Flamand J., Stander P., Scheepers L. and Kays R. W. 2005. Molecular genetic variation across the southern and eastern geographic ranges of the African lion, *Panthera leo*. *Conservation Genetics* 6(1), pp. 15.
 33. Edwards C. T. T., Bunnefield N., Balme G. A. and Milner-Gulland E. J. 2014. Data-poor management of African lion hunting using a relative index of abundance. *Proceedings of the National Academy of Sciences*, 111(1), 539-543.
 34. Eloff F.C. 1973. Lion predation in the Kalahari Gemsbok National Park. *J. Sth. Afr. Wildl. Mgmt. Ass.* 3, 59-63.
 35. Ferreira S. M. & Funston P.J. 2010. Age assignment to individual African lions. *South African Journal of Wildlife Research* 40, 1-9.
 36. Ferreira S. M. & Funston P.J. 2010. Estimating lion population variables: prey and disease effects in Kruger National Park, South Africa. *Wildlife Research* 37, 194-206.
 37. Funston P.J. & Mills M. G. L. 2006. The influence of lion predation on the population dynamics of common large ungulates in the Kruger National Park. *South African Journal of Wildlife Research* 36, 9-22.

38. Funston P. J., Mills M. G. L., Biggs H. C. & Richardson P. R. K. 1998. Hunting by male lions: ecological influences and socioecological implications. *Animal Behavior* 56, 1333–1345.
39. Funston P. J., Mills M. G. L. & Biggs H. C. 2001. Factors affecting the hunting success of male and female lions in the Kruger National Park. *Journal of Zoology*, London 253, 419–431.
40. Funston P.J., Mills M. G. L., Richardson P.R.K. & van Jaarsveld A. S. 2003. Reduced dispersal and opportunistic territory acquisition in male lions (*Panthera leo*). *Journal of Zoology*, London 259, 1-12.
41. Funston P. J., Frank L., Stephens T., Davidson Z., Loveridge A., Macdonald D. M., Durant S., Packer C., Mossner A. & Ferreira S. M. 2010. Substrate and species constraints on the use of track incidences to estimate African large carnivore abundance. *Journal of Zoology* 281, 56–65.
42. Funston P. J. 2011. Population characteristics of lions (*Panthera leo*) in the Kgalagadi Transfrontier Park. *South African Journal of Wildlife Research* 41, 1-12.
43. Funston P. J., Groom R. J. & Lindsey P. A. 2013. Insights into the management of large carnivores for profitable wildlife-based land uses in African savannas. *PLoS ONE* 8(3).
44. Groom R., Funston P. J. & Mandisodza R. 2014. Lion surveys in protected areas in Zimbabwe yield disturbing results: what is driving population collapse? *Oryx*, 1-9.
45. Hanby J. P. & Bygott J. D. 1979. Population changes in lions and other predators. In *Serengeti: Dynamics of an ecosystem*. Sinclair A.R.E. & Norton-Griffiths M. (Eds). Univ. Chicago Press, Chicago, pp. 249-262
46. Hanby J. P. & Bygott J. D. 1987. Emigration of subadult lions. *Animal Behaviour* 35, 161-169.
47. Hayward M. W. & Kerley G. I. H. 2005. Prey preferences of the lion (*Panthera leo*). *Journal of Zoology*, London 267, 309-322.
48. Hayward M. W., O'Brien J. & Kerley G. I. H. 2007. Carrying capacity of large African predators: predictions and tests. *Biological Conservation* 139, 219–229.
49. Hayward M. W. & Hayward G. J. 2009. The impact of tourists on lion *Panthera leo* behaviour, stress and energetics. *Acta Theriologica* 54, 219-24.
50. Hazzah L., Dolrenry S., Naughton L., Edwards C. T. T., Mwebi O., Kearney F. & Frank L. 2014. Efficacy of two lion conservation programs in Maasailand, Kenya. *Conservation Biology* 28, 851-860.
51. Henschel P., Bauer H., Sogbohoussou E. & Nowell K. 2015. *Panthera leo* (West Africa subpopulation). The IUCN Red List of Threatened Species. Version 2015.2. e.T15951A107265605. <http://dx.doi.org/10.2305/IUCN.UK.2016-3.RLTS.T15951A107265605.en>. Downloaded on 29 December 2016.
52. Henschel P., Azani D., Burton C., Malanda G., Saidu Y., Sam M. & Hunter L. 2010. Lion status updates from five range countries in West and Central Africa. *Cat News* 52, 34-9.
53. Henschel P., Coad L., Burton C., Chataigner B., Dunn A., MacDonald D., Saidu Y. & Hunter L.T.B. 2014. The Lion in West Africa Is Critically Endangered. *PLoS ONE* 9(1), 1-9.
54. Hopcroft J. G. C, Sinclair A. R. E & Packer C. 2005. Planning for success: Serengeti lions seek prey accessibility rather than abundance. *Journal of Animal Ecology* 74, 559–566.
55. Hunter L. T. B, Pretorius K., Carlisle L.C., Rickelton M., Walker C., Slotow R. & Skinner J. D. 2007. Restoring lions *Panthera leo* to northern KwaZulu-Natal, South Africa: short-term biological and technical success but equivocal long-term conservation. *Oryx* 41, 196-204.
56. Hunter L. T .B, White P., Henschel P., Burton L. F. C, Loveridge A., Balme G., Breitenmoser C. & Breitenmoser U. 2012. Walking with lions: why there is no role for captive-origin lions *Panthera leo* in species restoration. *Oryx*, 1-6.
57. IUCN Cat SG. 2006. Conservation Strategy for the lion in Eastern and Southern Africa. 1-47.
58. IUCN Cat SG. 2006. Conservation Strategy for the lion in West and Central Africa. 1-45.
59. Kiffner C., Meyer B., Mühlberg M. and Waltert M. 2009. Plenty of prey, few predators: what limits lions *Panthera leo* in Katavi National Park, western Tanzania? *Oryx* 43, 52–59.
60. Kingdon J. 1977. East African mammals: An atlas of evolution in Africa, Vol. 3(A). Carnivores.

Academic Press, New York.

61. Kissui B. M. & Packer C. 2004. Top-down population regulation of a top predator: lions in the Ngorongoro Crater. Proceeding of the Royal Society of London 271, 1867-1874.
62. Kissui B. M., Mosser A. & Packer C. 2010. Persistence and local extinction of lion prides in the Ngorongoro Crater, Tanzania. Population Ecology 52, 103-11.
63. Kitchener A. C., Breitenmoser-Würsten Ch., Eizirik E., Gentry A., Werdelin L., Wilrltng A., Yamaguchi N., Bramov A. V., Christiansen P., DriscollC., Duckworth J. W., Johnson W., Luo S.-J., Meijaard E., O'Donoghue P., Sanderson J., Seymour K., Bruford M., Groves C., Hoffmann M., Nowell K., Timmons Z. & Tobe S. 2017. A revised taxonomy of the Felidae. The final report of the Cat Classificaiton Task Force of the IUCN Cat Specialist Group. Cat News Special Issue 11, 80 pp.
64. Lindsey P. A., Balme G. A., Booth V. R. & Midlane N. 2012. The significance of African lions for the financial viability of trophy hunting and the maintenance of wild land. Plos ONE 7, 1-11.
65. Lindsey P. A., Balme G. A., Funston P., Henschel P., Hunter L., Madzikanda H., Midland N., & Nyirenda V. 2013. The trophy hunting of African lions: scale, current management practices and factors undermining sustainability. PLoS ONE 8(9), 1-11.
66. Lindsey P. A., Balme G., Becker M., Begg C., Bento C., Bocchino C., Dichman A., Diggle R. W., Eves H., Henschel P., Lewis D., Marnewick K., Mattheus J., McNutt J. W., McRobb R., Midlane N., Milanzi j., Morley R., Murphree M., Opyene V., Phadima J., Purchase G., Rentsch D., Roche C., Shaw J., van der Westhuizen H., van Vliet N. & Zisadza-Gandiwa P. 2013. The bushmeat trade in African savannas: Impacts, drivers, and possible solutions. Biological Conservation 160, 80-96.
67. Loveridge A., Searle A., Murindagomo F. & Macdonald D. 2007. The impact of sport-hunting on the population dynamics of an African lion population in a protected area. Biological Conservation 134, 548-558.
68. Loveridge A. J., Valeix M., Davidson Z., Murindagomo F., Fritz H. & Macdonald D. W. 2009. Changes in home range size of African lions in relation to pride size and prey biomass in a semi-arid savanna. Ecography, 32.
69. MacLennan S. D., Groom R. J., Macdonald D. W. & Frank L. G. 2009. Evaluation of a compensation scheme to bring about pastoralist tolerance of lions. Biological Conservation 142, 2419-27.
70. McBride C. J. 1977. The white lions of Timbavati. Paddington Press, London.
71. Miller S. M., Bissett C., Burger A., Courtney B., Dickerson T., Druce D.J., Ferreira S., Funston P. J., Hofmeyr D., Kilian P. J., Matthews W., Naylor S., Parker D.M., Slotow R., Toft M. & Zimmermann D. 2013. Management of reintroduced lions in small, fenced reserves in South Africa: an assessment and best practice guidelines. South African Journal of Wildlife Research 43, 138-154.
72. Miller S. M. & Funston P. J. 2014. Population growth rates of lions (*Panthera leo*) on small fenced reserves in South Africa: a management dilemma South African Journal of Wildlife Research 44, 43-55.
73. Mills M. G. L. & Shenk T. M. 1992. Predator-prey relationships: the impact of lion predation on wildebeest and zebra populations. Journal of Animal Ecology 61, 693-702.
74. Mills M. G. L. & Biggs H. C. 1993. Prey apportionment and related ecological relationships between large carnivores in Kruger National Park. In Mammals as predators. Dunstone N. & Gorman M. L. (Eds). Proc.of Symp. Zool. Soc. Lond. 65. Clarendon, Oxford.
75. Ogutu J. O. & Dublin H. T. 1998. The response of lions and spotted hyenas to sound playbacks as a technique for estimating population size. African Journal of Ecology 36, 83-95.
76. Packer C. & Pusey A. E. 1982. Cooperation and competition within coalitions of male lions: kin selection or game theory? Nature 296, 740-742.
77. Packer C. & Pusey A. E. 1983. Adaptations of female lions to infanticide by incoming males. American Naturalist 121, 716-728.

78. Packer C. & Pusey A. E. 1987. Intrasexual cooperation and the sex ratio in African lions. *American Naturalist*. 130, 636-642.
79. Packer C., Herbst L., Pusey A. E., Bygott J. D., Hanby J. P., Cairns S. J. & Borgerhoff-Mulder M. 1988. Reproductive success of lions. In. *Reproductive success*. Clutton-Brock T. H. (Ed.). Univ. Chicago Press, Chicago, pp. 363-383.
80. Packer C., Scheel D. & Pusey A.E. 1990. Why lions form groups: food is not enough. *American Naturalist* 136, 1-19.
81. Packer C., Gilbert D. A., Pusey A. E. & O'Brien S.J. 1991. A molecular genetic analysis of kinship and cooperation in African lions. *Nature* 351, 562-565.
82. Packer C., Pusey A. E., Rowley H., Gilbert D.A., Martenson J. & O'Brien S. J. 1991. Case study of a population bottleneck: lions of the Ngorongoro Crater. *Conservation Biology* 5, 219-230.
83. Packer C., Hilborn R., Mosser A., Kissui B., Borner M., Hopcraft G., Wilmshurst J., Mduma S. & Sinclair A.R.E. 2005. Ecological change, group territoriality, and population dynamics in Serengeti lions. *Science* 307, 390-393.
84. Packer C., Kosmala M., Cooley H.S., Brink H., Pintera L., Garshelis D., Purchase G., Strauss M., Swanson A., Balme G., Hunter L. & Nowell K. 2009. Sport hunting, predator control and conservation of large carnivores. *Plos ONE* 4.
85. Packer C., Brink H., Kissui B.M., Maliti H., Kushnir H. and Caro T. 2011. Effects of trophy hunting on lion and leopard populations in Tanzania. *Conservation Biology* 25, 142-153.
86. Packer C., Canney A.S., Loveridge S.T. Garnett M. Pfeifer K.K. Zander A. Swanson, MacNulty D., Balme G., Bauer H., Begg C.M., Begg K.S., Bhalla S., Bissett C., Bodasing T., Brink H., Burger A., Burton A.C., Clegg B., Dell S., Delsink A., Dickerson T., Dloniak S.M., Druce D., Frank L., Funston P.J., Gichohi N., Groom R., Hanekom C., Heath B., Hunter L., Delongh H.H., Joubert C.J., Kasiki S.M., Kissui B., Knocke W., Leathern B., Lindsey P.A., MacLennan S.D., McNutt J.W., Miller S.M., Naylor S., Nel P., Ng'weno C., Nicholls K., Ongut J.O., Okot-Omoya E., Patterson B.D., Plumptre A., Salerno J., Skinner K., Slotow R., Sogbohossou E.A., Stratford K.J., Winterbach C., Winterbach H. & Polasky S. 2013. Conserving Large Carnivores: Dollars and Fence. *Ecology Letters* 16, 635–641.
87. Patterson B. D., Kasiki S. M., Selempo E. & Kays R. W. 2004. Livestock predation by lions (*Panthera leo*) and other carnivores on ranches neighboring Tsavo National Parks, Kenya. *Biological Conservation* 119, 507-516.
88. Prins H. H. T. & Iason G. R. 1989. Dangerous lions and nonchalant buffalo. *Behaviour*, 262-296.
89. Pusey A. E. & Packer C. 1987. The evolution of sex-biased dispersal in lions. *Behaviour* 101, 275-310.
90. Riggio J., Jacobson A., Dollar L., Bauer H., Becker M., Dickman A., Funston P. J., Groom R., Henschel P., de longh H. H, Lichtenfeld L. & Pimm S. 2013. The size of savannah Africa: a lion's (*Panthera leo*) view. *Biodiversity Conservation* 22, 17-35.
91. Rodgers W. A. 1974. The lion (*Panthera leo*, Linn.) population of the eastern Selous Game Reserve. *East African Wildlife J.* 12, 313-317.
92. Rosenblatt E., Becker M. S., Creel S., Droege I., Mweetwa T., Schuette P. A., Watson F., Merkle J. and Mwape H. 2014. Detecting declines of apex carnivores and evaluating their causes: An example with Zamibian lions. *Biological Conservation* 180, 176-186.
93. Rudnai J. 1973. The social life of the lion. Medical and Technical Publishing, Lancaster.
94. Rudnai J. 1974. The pattern of lion predation in Nairobi Park. *E. Afr. Wildl. J.* 12, 213-225.
95. Ruggiero R. G. 1991. Prey selection of the lion (*Panthera leo* L.) in the Manovo-Gounda-St. Floris National Park, Central African Republic. *Mammalia* 55, 23-33.
96. Schaller G. B. 1972. The Serengeti lion. Univ. of Chicago Press, Chicago.

97. Scheel D. 1993. Profitability, encounter rates, and prey choice of African lions. *Behavioural Ecology* 4, 90-97.
98. Smuts G. L. 1976. Population characteristics and recent history of lions in two parts of the Kruger National Park. *Koedoe* 19, 153-164.
99. Smuts G. L. 1978. Effects of population reduction on the travels and reproduction of lions in Kruger National Park. *Carnivore* 1, 61-72.
100. Smuts G. L. 1982. Lion. MacMillan, Johannesburg.
101. Smuts G. L., Hanks J. & Whyte I. J. 1978. Reproduction and social organization of lions from the Kruger National Park. *Carnivore* 1, 17-28.
102. Stander P. E. 1991. Demography of lions in the Etosha National Park. *Madoqua* 18, 1-9.
103. Stander P. E. 1992. Foraging dynamics of lions in a semi-arid environment. *Canadian Journal of Zoology*. 70.
104. Stander P. E. 1992. Cooperative hunting in lions: the role of the individual. *Behavioral Ecology and Sociobiology* 29, 445-454.
105. Stander P. E. & Albon S. D. 1992. Hunting success of lions in a semi-arid environment. In *Mammals as predators*. Dunstone N. & Gorman M. L.(Eds). Proc. Symp. Zool. Soc. Lond. 65. Clarendon, Oxford.
106. Stander P.E. & Stander H. 1987. Characteristics of lion roars in Etosha National Park. *Madoqua* 15, 315-318.
107. Treves A., Plumptre A. J., Hunter L. T. B. & Ziwa J. 2009. Identifying a potential lion *Panthera leo* stronghold in Queen Elizabeth National Park, Uganda, and Parc National des Virunga, Democratic Republic of Congo. *Oryx* 43, 60–66.
108. Van der Waal K. L., Mosser A. & Packer, C. 2009. Optimal group size, dispersal decisions and postdispersal relationships in female African lions. *Animal Behaviour* 77, 949-54.
109. van Orsdol K. G. 1982. Ranges and food habits of lions in Rwenzori National Park, Uganda. *Symp. Zool. Soc. Lond.* 49, 325-340.
110. van Orsdol K. G. 1984. Foraging behaviour and hunting success of lions in Queen Elizabeth National Park, Uganda. *Afr. J. Ecol.* 22, 79-99.
111. van Orsdol K. G., Hanby J. P. & Bygott J. D. 1985. Ecological correlates of lion social organization (*Panthera leo*). *J. Zool.*, Lond. 206, 97-112.
112. Whitman K., Starfield A. M., Quadling H. S. & Packer C. 2004. Sustainable trophy hunting of African lions. *Nature* 428, 175-178.
113. Woodroffe R. and Frank L. 2005. Lethal control of African lion (*Panthera leo*): local and regional population impacts. *Animal Conservation* 8, 91-98.
114. Valeix M., Loveridge A.J., Davidson Z., Madzikanda H., Fritz H. & Macdonald D. W. 2010. How key habitat features influence large terrestrial carnivore movements: waterholes and African lions in a semi-arid savanna of north-western Zimbabwe. *Landscape Ecology* 25, 337-351.
115. Yamazaki K. 1996. Social variation of lions in a male-depopulated area in Zambia. *Journal of Wildlife Management* 60, 490-497.