Is Ecotourism Truly Sustainable? A Review of the Impact of Tourism on Primates

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**Abstract.** Due to unsustainable human activities, 60% of primate species are on the verge of extinction. Conservation and environmental concern have led to the emergence of ecotourism ventures to protect primate habitats by providing sustainable solutions by raising revenues and awareness among the people regarding primate conservation. However, long-term exposures to tourist presence and tourism activities have caused adverse effects on primates. Numerous studies report the negative effects of tourism related construction activities and tourist attitudes while visiting on primates but to get more insight into the topic it is important to determine the past and present trend of research on primates inhabiting ecotourism destinations. In this study, a literature search of peer-reviewed publications was conducted, focusing on tourist and tourism related impact in ecotourism sites to characterize its trends.

The literature search resulted in 73 publications on 18 primate genera between 1950-2019, and with genus *Macaca* featured in one-third of all the publications. Most of the publications concerned primates in African continent (55%). Behavioural adjustments by primates due to tourist presence contributed 51% of the literature. Only 6% of these studies investigated primarily the health of the tourists.

Characterizing trends of research in ecotourism destinations in primate habitat countries can provide us valuable information about the challenges and drawbacks in management of the sensitive habitats for endangered primates. In order to minimize the negative effects on primates by tourism activities multidisciplinary approach is required to implement education and training programs for the while highlighting the gap in our knowledge and need of actions by authorities and scientists for efficient functioning of ecotourism destinations.

**Keywords.** Primates, impacts of tourism, tourist behaviour, management of ecotourism sites

**References**

[1] Estrada A, Garber PA, Rylands AB, Roos C, Fernandez-Duque E, Di Fiore A, Nckaris KA-I, Nijman V, Heymann EW, Lambert JE. Impending extinction crisis of the world’s primates; why primates matter. Sci. Adv., 2017, 3(1), e1600946.

[2] Bruner AG, Gullison Rice RE, da Fonseca GAB. Effectiveness of parks in protecting tropical biodiversity. Science, 2001, 291 (5501), 125-128.

[3] Munasinghe M, McNealy J. (Eds). Protected area economics and policy: linking conservation and sustainable development. Washington, DC: The World Bank, 1994.

[4] Brandon K. Ecotourism and conservation: a review of key issues. Environment Department working papers; no. 33. Biodiversity series. Washington, DC: World Bank, 1966.

[5] Fuentes A. Natural cultural encounters in Bali: monkeys, temples, tourists, and ethnoprimatology. Cult. Anthropol., 2010, 24(4), 600-624.

[6] Honey M. Ecotourism and Sustainable Development: Who owns paradise? Washington, DC: Island Press, 1999.

[7] O’Brien TG, Kinnaird MF. Behaviour, Diet, and Movements of the Sulawesi Crested Black Macaque (Macaca nigra). Int. J. Primatol., 1997, 18, 321-351.

[8] Wollenberg KC, Jenkins RKB, Randrianavelona R, et al. On the shoulders of lemurs: pinpointing the ecotouristic potential of Madagascar’s unique herpetofauna. J. Ecotourism, 2011, 10 (2), 101-117.

[9] Varty N, Ferriss S, Carroll B, Caldecott J. Conservation measures in play. World Atlas of Great Apes and their Conservation, Caldecott J, Miles L (eds.), 242-275, University of California Press, Berkeley, CA, 2005.

[10] Weber AW. Primate conservation and ecotourism in Africa. Perspectives on Biodiversity: Case Studies of Genetic Resource Conservation and Development, Potter CS, Cohen JI, Janczewski D (eds.), 129-150, American Association for the Advancement of Science Washington, DC, 1993.

[11] Ahebwa WM, Van der DR, Sandbrook C. Tourism revenue sharing policy at Bwindi Impenetrable National Park, Uganda: A policy arrangements approach.J.of Sustain.T , 2012, 20, 377-394.

[12] Tumusiime DM, Svarstad H. A local counter-narrative on the conservation of Mountain Gorillas. Forum for Development Studies. 2011, 38, 239-265.

[13] Xiang ZF, Yu Y, Yang M. et al. Does Flagship species tourism benefit conservation? A case study of the golden snub-nosed monkey in Shennongjia National Nature Reserve. Chinese Science Bulletin., 2011, 56(24), 2553-2558.

[14] Charnov E, Berrigan D. Why Do Female Primates Have Such Long Lifespans and So Few Babies? or Life in the Slow lane. Evol. Anhtropol. 1993, 1(6), 191-194.

[15] Hennemann WW. Relationship among body mass, metabolic rate and the intrinsic rate of natural increase in mammals. Oecologia, 1993, 56,104

[16] Eisenberg JF, Muckenhirn NA, Rundran R. The relation between ecology a social structure in primates. Science, 1972, 176, 863-874.

[17] Jolly A. Lemur social behavior and primate intelligence. Science, 1966, 153, 501-506.

[18] Harvey PH, Clutton-Brock TH. Life history variation in primates. Evolution, 1985, 39, 559-581.

[19] Fuentes A, Shaw E, Cortes J. Qualitative assessment of macaque tourist sites in Padangtegal, Bali, Indonesia, and the Upper Rock Nature Reserve, Gibraltar. Int. J. Primatol., 2007, 28(5), 1143-1158.

[20] McKinney T. Species-Specific Responses to Tourist Interactions by White-Faced Capuchins (Cebus imitator) and Mantled Howlers (Alouatta palliata) in a Costa Rican Wildlife Refuge. Int. J. Primatol., 2014, 35, 573-589.

[21] Blom A, Cipolletta C, Brunsting AMH, Prins HHT. Behavioral responses of gorillas to habituation in the Dzanga-Ndoki National Park, Central African Republic. In. J. Primatol., 2004, 25(1), 179-196.

[22] Behie A, Pavelka M, Chapman C. Sources of variation in fecal cortisol levels in howler monkeys in Belize. Am. J. Primatol., 2010, 72, 600-606.

[23] Kemnitz JW, Sapolsky RM, Altmann J. Effects of food availability on serum insulin and lipid concentrations in free-ranging baboons. Am. J. Primatol., 2002, 57,13-19.

[24] Berman CM, Li JH. Impact of Translocation, Provisioning and Range Restriction on a group of Macaca thibetana. Int. J. Primatol., 2002, 23, 383

[25] Muehlenbein MP, Ancrenaz M. Minimizing Pathogen Transmission at Primate Ecotourism Destinations: The Need for Input from Travel Medicine. J. Travel.Med. 16(4), 229-232.