

Study shows that interactions between humans and scavengers have been decisive in human evolution

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Lioness. Credit: David Carmona

An international team of researchers led by scientists at the University Miguel Hernández in Elche (Spain) has concluded that the interactions that human have kept for millennia with scavengers like vultures, hyenas and lions, have been crucial in the evolution and welfare of mankind. Furthermore, the results of the study note that the extinction of large

carnivorous mammals threatens to wipe out the many services that they provide us. This finding has been published in the journal *BioScience* and has numerous implications in the cognitive, ecological and cultural identity of modern man.

The study led by researchers Marcos Moleón and José Antonio Sánchez Zapata from the Area of Ecology - Department of Applied Biology at the University Miguel Hernández is based on a review of recent arguments that have been published in scientific journals and offers a unique perspective of [human evolution](#), from the origin of the first hominid about two million years ago, to the emergence and development of [modern man](#).

"The way that humans have acquired meat since it became a fundamental component of our diet has changed from the consumption of dead animals to hunting live ones, the domestication of wild animals and finally intensive exploitation," the researchers explain. "In each of these periods, humans have been closely related to other scavengers. At first, the interaction was primarily competitive, but when humans went from eating carrion to generating it, scavengers highly benefitted from the relationship. Today humans benefit the most from the multiple services provided by scavengers."

However, the study concludes that "the current process of extinction and depletion of vultures and large [carnivorous mammals](#) in large regions of the planet seriously threaten these services. Therefore, the continuity of these scavengers among us is not only important for maintaining the planet's biodiversity but also for our own wellbeing and our ecological and evolutionary identity."



White-backed vulture. Credit: David Carmona

The human implications of the ancestral and changing relationship between humans and scavengers are manifold. According to the researchers, the study shows that "the benefits to humans range from the provision of food, as carrion was more easily found if other [scavengers](#) were feeding from it, to the control of infectious diseases (due to the elimination of animal remains in the vicinity of human settlements); also through the catalysis of cultural diversity for example as we had to improve the early stone tools to be competitively successful."



Lioness. Credit: David Carmona

Furthermore, this work indicates that "the two most distinctive [human](#) attributes, language development and cooperative partnership, were probably the result of selective pressures associated with consumption of carrion."

More information: Marcos Moleón, José A. Sánchez-Zapata, Antoni Margalida, Martina Carrete, Norman Owen-Smith, and José A. Donázar. "Humans and Scavengers: The Evolution of Interactions and Ecosystem Services." *BioScience*, first published online March 26, 2014 [DOI: 10.1093/biosci/biu034](https://doi.org/10.1093/biosci/biu034)

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