

Persistence Hunting: The Origin of Humans

Hominins are smaller, slower, and weaker than most large mammals, yet they have been eating meat from large mammals since before the invention of sophisticated weaponry. It is thought that they achieved this seemingly impossible feat through persistence hunting, a practice powered by endurance running. Essentially, one or more hunters pursue a prey animal in the heat of the day, until it reaches the point of hyperthermia. This allows a hunter to safely kill the weakened animal at close range using methods such as beating, strangling, or spearing. I assessed the feasibility of persistence hunting through several energy returned on investment (EROI) calculations based on the energy used by the hunter, their success rate, the energy used by family members that they supported, and the energy returned as meat from the kudu. I calculated the EROI of hunting greater kudu (*Tragelaphus strepsiceros*) as 104:1 to 39:1, when different sized kudu were captured and eaten by the hunting party alone. When I included the energetic needs of the hunters' families into the calculations the EROI ranged from 16:1 to 6:1. The excess energy within these ranges of EROI values would have supported, and possibly even advanced, the societies that practiced persistence hunting. This could be important in explaining how hominins without advanced weaponry were able to obtain meat and sustain themselves.

Keywords: persistence hunting, energy returned on investment (EROI), hominins