



SCIENCE & TECHNOLOGY

Study Shows Unusual Evolutionary Changes in African Wild Dogs

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A study of the African wild dog has identified unusual physical changes that support the animal's ability to run for long periods while hunting **prey**.

The African wild dog is native to southern and eastern Africa. It differs from other **predators** – such as lions and hyenas - because it uses an unusual hunting method. The animal chases its prey over long distances until the target gets so tired it collapses. Other animals depend on different hunting skills to catch prey, including speed, strength and quiet, secret movements.

A new study of this **endangered** animal has identified important changes that happened over time that permit the African wild dog to hunt this way.

The African wild dog is the only dog-like animal that has only four **digits** on the front paws. Scientists say having only four full toes supports increased speed and longer jumps.

The new research identifies a small, hidden first digit under the skin of the front feet, or paws. The discovery was made through computer imaging methods and an examination of an African wild dog that died of natural causes at an animal park.

The muscles related to this digit have been re-formed and are used to help with “proprioception” - the body's **awareness** of its position and movement.

The researchers also saw expansions in **limb** muscles containing nerve tissue thought to resist tiredness. They also identified tissue material on the front paw that may help launch the dogs forward. In addition, the team observed a reduction in muscles that normally act to turn the wrist and forearm, possibly demonstrating an increased demand for **stability**.

Groups of 20 to 30 African wild dogs often hunt together in search of prey. They can travel up to 50 kilometers a day. The animals have been recorded running at least 64 kilometers an hour for up to an hour during a hunt.

Heather Smith is a researcher at Midwestern University in Glendale, Arizona. Her team completed a study on the findings. The study recently appeared in the publication *PeerJ*.

Smith told the Reuters news agency, “They’re very effective hunters, with up to 60 percent of hunts ending in successful kills.” She noted that is higher than lions, at 30 percent, and hyenas, at 25-30 percent.

Smith said African wild dogs are clearly built for **stamina** – having strength that lets you continue to do something for a long time. That makes them different from other predators that use explosive speed, strength and **stealth**.

“However, African wild dogs sometimes lose their kills to these larger, more aggressive **carnivores**,” she said.

I’m Bryan Lynn.

Reuters reported on this story. Bryan Lynn adapted the report for VOA Learning English, with additional information from Midwestern University. Ashley Thompson was the editor.

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Words in This Story

prey – *n.* an animal that is hunted or killed by another animal for food

predator – *n.* animal that hunts and kills other animals for food

endangered – *adj.* in danger of being lost

digit – *n.* a finger, thumb or toe

awareness – *n.* the knowledge that something exists

limb – *n.* an arm or leg of a person or animal

stability – *n.* a situation in which something is not likely to move or change

stealth – *n.* movement that is quiet and careful in order not to be seen or heard

carnivore – *n.* an animal that eats meat
