

Secrets of the Elephant Trunk

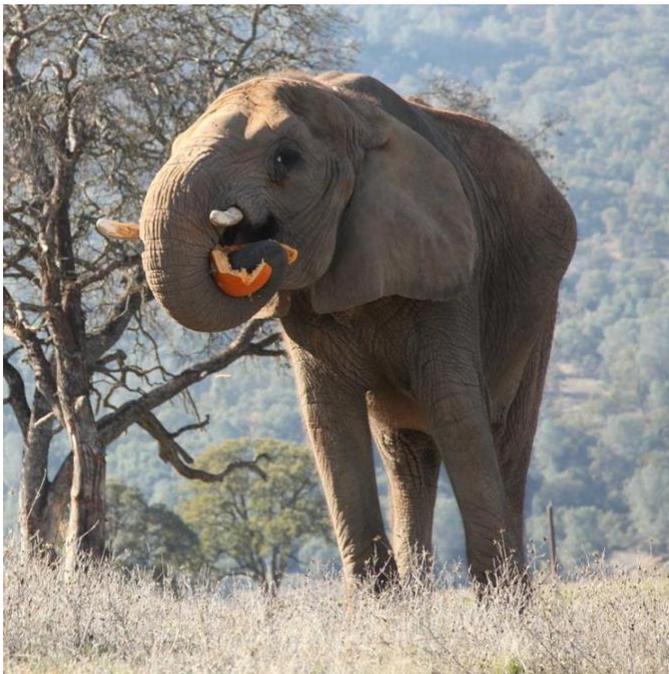
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July 2022



African Elephants Mara and Thika

As Director of Science, Research and Advocacy for PAWS, I have been conducting ongoing behavioral observations of the African elephants at our ARK 2000 sanctuary. During a recent round of observations, I took extra notice of the ways the elephants use their trunks, those amazing appendages that serve a multitude of functions.



Thika enjoying a pumpkin

The elephant's trunk is used to breathe, suck up water and transfer it to the mouth to drink, bathe, smell, toss dust or mud onto themselves, socialize, call, explore, and rub their eyes and scratch their heads. Just like people are left or right-handed, elephants may have a preference for the way they rotate the trunk to gather or grab vegetation and the side of the mouth where they place their food.

The Elephant Ethogram, a library of the behavior and communication of African elephants created by our friends at [ElephantVoices](#), documents at least 250 separate trunk-related actions.



An elephant's trunk is boneless, with an array of 40,000 muscles (humans have about 650 muscles in their entire body). It weighs about 200 pounds and is capable of lifting more than 700 pounds. African elephants have two opposable "fingers" at the end of the trunk that are so dextrous they can pick a single blade of grass (Asian elephants have one "finger"). At the same time, the trunk is so powerful it can tear down a huge tree limb (as I once watched our elephant Mara do). Scientists have found that the trunk can suck up three liters (0.8 gallons) of water in a second. To move water this quickly requires inhaling at 330 miles per hour!

According to a [new study](#) from the Georgia Institute of Technology, muscles are not the only factor in how an elephant stretches the trunk – its folded skin plays an important role. When reaching out, an elephant telescopically stretches the trunk, first extending the section that includes the tip, then moving up to the next section as stretching increases, gradually working back toward the mouth. Researchers found that the elephant's skin does not stretch uniformly; the top side of the trunk, which has skin folds, is more flexible than the bottom side that has wrinkles. This makes it easier to reach downward – which elephants do when foraging for food and picking up items. This combination of muscle and skin provides the trunk's strength and versatility.



Nicholas

It's always fascinating to watch the elephants at PAWS and the incredible ways they use their trunks, whether it's picking up a single acorn, breaking apart tree limbs, or enjoying a good mud bath. The spacious, natural habitats at the ARK 2000 sanctuary offer the opportunity for elephants to engage in these natural behaviors and many more