



## A short description of *Phacochoerus aethiopicus* (Pallas, 1766)

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**Abstract.** The present paper proposes a brief description of the species *Phacochoerus aethiopicus* (Pallas, 1766). The desert warthog is a fascinating species with unique adaptations to its arid environment. While it is currently not at immediate risk of extinction, ongoing conservation efforts are essential to ensure that this species continues to thrive in the wild. Further research is needed to fully understand its ecological role and to develop effective management strategies.

**Key Words:** *delamerei*, desert warthog, diet, distribution, evolutionary history, habitat, morphology.

**Introduction.** Wild suids, including various species of wild pigs, boars, and warthogs, are diverse members of the family Suidae found across many parts of the world (Proorocu & Petrescu-Mag 2022; Petrescu-Mag & Papuc 2023). *Phacochoerus aethiopicus* (Pallas, 1766), commonly known as the desert warthog, is a member of the Suidae family (Grubb 2005). This species is native to parts of East Africa and is distinguishable from its close relative, the common warthog, *Phacochoerus africanus* (Gmelin, 1788), by several morphological and behavioral traits. Our paper proposes a brief description of the species *P. aethiopicus*.

### Taxonomy

Kingdom: Animalia

Phylum: Chordata

Class: Mammalia

Order: Artiodactyla

Family: Suidae

Genus: *Phacochoerus*

Species: *P. aethiopicus*

**Distribution and evolutionary history.** The desert warthog (*P. aethiopicus*), an even-toed ungulate in the pig family (Suidae), inhabits northern Kenya and Somalia, with possible populations in Djibouti, Eritrea, and Ethiopia (Grubb 2005). The estimated current geographic distribution of *P. aethiopicus* is 1,109,000 square km (de Jong et al 2023). This region is home to the Somali warthog (*P. a. delamerei*), an extant subspecies. Another subspecies, the Cape warthog (*P. a. aethiopicus*), which lived in South Africa, went extinct around 1865 (d'Huart et al 2016).

Holocene epoch fossils reveal that two distinct warthog lines (*Phacochoerus* spp.) existed thousands of years ago. The ancestors of today's common warthog (*P. africanus*) differed in the number of incisors from those of the desert warthog (*P. aethiopicus*). In the late 1800s, *P. aethiopicus* disappeared from South Africa. Later, mtDNA studies and morphological analyses confirmed that East African warthogs, once thought to be a

variant of the common warthog, are actually surviving members of *P. aethiopicus*, previously believed extinct (Randi et al 2002).



Figure 1. Desert warthog *P. aethiopicus*, Tsavo National Park, Kenya (Source: Boerekamps 2013).

**Morphology and identification.** The desert warthog is a robust animal, typically reaching a length of 125 centimeters (49 inches) and a weight of 75 kilograms (165 pounds), with males being larger than females. Its head is relatively flat, featuring distinctive paired facial protrusions ("warts") and large, curved canine teeth that form tusks (Winkelstern 2009) (Figure 1). These tusks, absent in juveniles, develop over several years and are larger in males. The body has sparse bristly hairs, with a denser strip running along the spine, forming a crest. The tail is long, thin, and ends with a small brush of coarse hair. The overall color is mid to dark brown, though the crest can sometimes appear whitish (Winkelstern 2009).

*P. aethiopicus* can be identified by its distinctive facial features, including larger and more forward-facing facial warts compared to the common warthog. These warts are actually thickened skin that protects the warthog during fights. The desert warthog also has longer, more curved tusks, and its body size is generally smaller. The coat is sparse, and the skin color tends to be paler, which may provide better camouflage in its arid environment.

**Habitat.** Desert warthogs are adapted to arid and semi-arid environments. They are commonly found in savannas, shrublands, and open woodlands where they can find sufficient cover and food resources. They prefer areas with loose, sandy soils which facilitate their burrowing behavior.

**Diet.** The diet of *P. aethiopicus* primarily consists of grasses, roots, tubers, and bulbs. They are known to dig for food using their snouts and tusks. During dry seasons, they rely more heavily on underground plant parts, which retain moisture.

**Behavior.** Desert warthogs are diurnal, with most of their activities occurring in the early morning and late afternoon to avoid the extreme heat of midday. They live in small family groups called sounders, typically consisting of a few females and their offspring (Winkelstern 2009). Males are generally solitary or form small bachelor groups. A sounder inhabits a home range of roughly 10 square kilometers (3.9 square miles), typically centered around a water hole. Warthogs dig several burrows or occupy ones made by other animals, rotating between them. When the home ranges of different groups overlap, they may share the same burrow at different times, but the groups generally do not interact much (Winkelstern 2009).

**Reproduction.** The breeding season of *P. aethiopicus* varies geographically but generally coincides with the onset of the rainy season, which ensures that the young are born during a time of food abundance. After a gestation period of about 170 days, females give birth to litters of 2 to 3 piglets (Winkelstern 2009). The piglets are weaned at about 3 to 4 months of age but remain with their mother for several months thereafter (Winkelstern 2009).

**Conservation status.** The International Union for Conservation of Nature (IUCN) lists the desert warthog as "Least Concern" due to its wide distribution and presumed large population. However, habitat destruction and hunting pressure in some regions pose potential threats. Conservation efforts focus on habitat preservation and mitigating human-wildlife conflicts (d'Huart et al 2016).

**Research and findings.** Desert warthogs were experimentally infected with the African swine fever virus. Although they displayed no external signs of the disease, they remained infectious to domestic pigs for at least 33 days, the duration of the experiment (Thomson et al 1980). Farmers used to shoot desert warthogs to prevent the spread of this disease to their livestock. However, it is now understood that the tick *Ornithodoros moubata* transmits the disease, making the elimination of warthogs ineffective for protecting domestic swine (Winkelstern 2009).

Desert warthogs are significant hosts for the tsetse fly (Child et al 1968; Mbaya et al 2009), leading to efforts in some areas to reduce their numbers (Child et al 1968). Specifically, *P. aethiopicus* was found to be the preferred host for *Glossina swynnertoni* and *G. pallidipes* in a study by Weitz in 1963 (cited by Wikipedia.org 2023), with 16% and 12% of *P. aethiopicus* infected with trypanosomes, respectively. The trypanosomes identified included *Trypanosoma brucei* (Geigy et al 1967, cited by Wikipedia.org 2023) and *T. congolense* (Baker 1968, cited by Wikipedia.org 2023). In cases of per-acute infection, Ashcroft and Geigy (cited by Wikipedia.org 2023) observed extensive hemorrhaging in the serous membranes of vital organs, along with hepatomegaly, splenomegaly, lymphadenopathy, and body fat atrophy. Torr (1994, cited by Wikipedia.org 2023) found that the impact of *P. aethiopicus* on disease transmission varies depending on the control of associated *Glossina* species, which is influenced by the availability of specific attractants (Mbaya et al 2009).

Warthogs are prolific breeders, prompting research into their breeding and recruitment patterns to determine the most effective methods for controlling their population (Child et al 1968).

**Conclusions.** *Phacochoerus aethiopicus* is a fascinating species with unique adaptations to its arid environment. While it is currently not at immediate risk of extinction, ongoing conservation efforts are essential to ensure that this species continues to thrive in the wild. Further research is needed to fully understand its ecological role and to develop effective management strategies.

**Conflict of interest.** The authors declare that there is no conflict of interest.

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Received: 14 November 2023. Accepted: 12 December 2023.

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How to cite this article:

Gavriiloaie C., Burduhos P., 2023 A short description of *Phacochoerus aethiopicus* (Pallas, 1766). *Porc Res* 13(1):27-30.