



The bearded pig, *Sus barbatus* (Müller, 1838): a cover photo

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Abstract. With this paper we aim to make a brief description of the species *Sus barbatus*. *S. barbatus* is the scientific name for the bearded pig, also known as the Bornean bearded pig. It is a pig species native to Southeast Asia, specifically Borneo, Sumatra, and nearby smaller islands. Bearded pigs are known for their distinctive appearance, which includes a beard-like tuft of hair on their chin, as well as long, sharp tusks. They are omnivorous and primarily feed on roots, fruit, and small animals such as insects. Bearded pigs are social animals and live in groups of up to 20 individuals. They are typically active during the day and rest in the shade during the hottest part of the day. Despite being a common prey animal for many predators, they were considered in the past a species of "least concern" by the International Union for Conservation of Nature (IUCN) due to their widespread distribution and relatively stable population. Now the species is listed as "vulnerable". Conservation research on *S. barbatus* is important to ensure the long-term survival of this species and the ecosystems in which it lives. The anatomy and physiology of *S. barbatus* are adapted to their omnivorous diet and their habitat in Southeast Asia. The ecology of *S. barbatus* is shaped by their habitat, diet, social behavior, and interactions with other species in their ecosystem. The bearded pig has several unique features that set it apart from other swine species, including its facial hair, large size, omnivorous diet, complex social structure, and rainforest habitat.

Key Words: bearded pig, conservation, species description, *Sus barbatus*.

Introduction. *Sus barbatus* is the scientific name for the bearded pig, also known as the Bornean bearded pig (Figure 1). It is a species of pig native to Southeast Asia, specifically to Borneo, Sumatra, and nearby smaller islands (Kloss 1931).

Bearded pigs are known for their distinctive appearance, which includes a beard-like tuft of hair on their chin, as well as long, sharp tusks. They are omnivorous and primarily feed on roots, fruit, and small animals such as insects (Kurz et al 2022).

Bearded pigs are social animals and live in groups of up to 20 individuals. They are typically active during the day and rest in the shade during the hottest part of the day. Despite being a common prey animal for many predators, they were considered in the past a species of "least concern" by the International Union for Conservation of Nature (IUCN) due to their widespread distribution and relatively stable population. Currently, the species is listed as "vulnerable" (Luskin et al 2017; Kurz et al 2022).

With this paper we aim to make a brief description of the species *S. barbatus*.

Taxonomy. The species *S. barbatus* is included in the *Sus* genus, Suidae family, Artiodactyla order, Mammalia class, Chordata phylum, in the Animalia kingdom.

Phylogeny. Bearded pigs belong to the Suidae family, which includes pigs, hogs, and boars. Within the Suidae family, bearded pigs belong to the genus *Sus*, which includes several other species of wild pigs found in Asia and Europe.

Molecular studies based on mitochondrial DNA have suggested that *S. barbatus* is closely related to *S. scrofa*, the domestic pig, and that they may have diverged from a common ancestor around 4-5 million years ago (Randi et al 1996; Wu et al 2006; Chen et al 2007; Wu et al 2007; Choi et al 2020). However, there is still debate among scientists regarding the exact evolutionary relationships within the genus *Sus*, and more research is needed to fully understand the phylogeny of bearded pigs and their relatives.



Figure 1. Bornean bearded pig at Bako National Park, Sarawak, Borneo, Malaysia (source: Wikipedia.org – Quinet took the photo on a trip to Borneo).

Conservation. Conservation research on *S. barbatus* is ongoing due to concerns about the potential threats to their population and habitat. Here is some information on the conservation research related to this species.

Population studies: researchers have conducted population surveys to determine the size and distribution of bearded pig populations in various regions of their range, including in protected areas and forests that are threatened by human activities such as logging and agriculture (Lee et al 2011; Davison et al 2019).

Habitat assessments: studies have been conducted to assess the quality of bearded pig habitat and identify key areas for conservation efforts. This includes identifying important food sources, water sources, and areas for shelter and reproduction (Love et al 2018; Ke & Luskin 2019).

Threat assessments: research has also been conducted to assess the various threats to bearded pig populations, such as habitat loss and fragmentation, hunting, and disease (Kawanishi et al 2006). This information can be used to inform conservation strategies that address these threats.

Conservation interventions: conservationists have implemented various interventions to protect bearded pig populations, such as establishing protected areas, implementing sustainable hunting practices, and promoting ecotourism as an alternative to activities that may harm bearded pigs and their habitat.

Genetic studies: Genetic research has also been conducted to better understand the population structure and genetic diversity of bearded pig populations. This

information can aid conservation strategies and help identify populations that are in dire need of protection.

Conservation research on *S. barbatus* is important to ensure the long-term survival of this species and the ecosystems in which they live.

Today, bearded pigs are the only established wild pig species throughout Borneo, but in Peninsular Malaysia and Sumatra, bearded pig ranges overlap in some areas with the Eurasian wild boar (Kurz et al 2022). In some cases, the two species are thought to both compete and to inter-breed, which raises conservation concerns for the vulnerable bearded pig (Kurz et al 2023).

Anatomy. Size and weight: adult bearded pigs can grow up to 1.2 m (4 feet) in length and weigh up to 150 kg (330 pounds), or even more according to Kurz et al (2022).

Body structure: bearded pigs have a stout, muscular body with short legs and a broad, flat snout. They have a thick, bristly coat that varies in color from reddish-brown to black, and a beard-like tuft of hair on their chin.

Teeth and tusks: bearded pigs have four sharp canine teeth, or tusks, that protrude from their upper and lower jaws. The tusks are used for defense and to help root through soil and vegetation for food.

Digestive system: bearded pigs have a complex digestive system that allows them to extract nutrients from tough plant material. They have a multi-chambered stomach and a long, coiled intestine (Zabielski & Skrzypek 2021).

Physiology. Metabolism: bearded pigs are endothermic, meaning they can regulate their own body temperature. Limited hair helps them keep cool in a warm, humid rainforest environment (Kurz et al 2022).

Reproduction: female bearded pigs have a gestation period of around 110 days (90-120 days) (Luskin & Ke 2017) and can give birth to litters of up to 8-9 piglets (Luskin & Ke 2017). Bearded pigs reach sexual maturity at around 18-24 months of age according to many sources (wikipedia.org). Luskin & Ke (2017) reported sexual maturity in female bearded pigs at 10-12 months.

Sensory systems: bearded pigs have a keen sense of smell, which they use to locate food and detect predators (Kurz et al 2022). They also have good hearing and eyesight.

Cardiovascular system: bearded pigs have a four-chambered heart and a closed circulatory system, which helps to transport oxygen and nutrients throughout their body.

Respiratory system: bearded pigs have lungs with multiple lobes, which allow efficient gas exchange during breathing.

The anatomy and physiology of *S. barbatus* are adapted to their omnivorous diet and their habitat in Southeast Asia.

Ecology. The ecology of *S. barbatus* is closely tied to its habitat in the tropical rainforests and mangrove swamps of Southeast Asia.

Habitat: bearded pigs are found in a variety of forest habitats, including lowland and montane rainforests, as well as swamp and mangrove forests (Kurz et al 2022). They require dense vegetation for cover and foraging, as well as access to water sources (Kurz et al 2022).

Diet: bearded pigs are omnivorous and feed on a wide variety of plant and animal materials. Their diet includes roots, tubers, fruits, leaves, and seeds, as well as insects, small vertebrates, and carrion (Kurz et al 2022).

Foraging behavior: bearded pigs are primarily diurnal, but they may also forage at night in areas where human disturbance is high. They use their snouts to root through soil and leaf litter, and their sharp tusks to dig up tubers and other underground food sources.

Social behavior: bearded pigs are social animals and live in groups known as sounders. A typical sounder consists of several adult females, their offspring, and one or more adult males. Adult males may also live alone or in bachelor groups.

Reproduction: bearded pigs breed year-round, but most births occur during the rainy season. Females give birth to litters of 2-9 piglets, which are weaned at around 4 months of age. They can reproduce from the age of 18-24 months, and can be cross-bred with other species in the family Suidae (wikipedia.org).

Predators: bearded pigs are preyed upon by a variety of predators, including tigers, leopards, crocodiles, and pythons. They rely on their keen sense of smell and hearing to detect predators and may use their tusks to defend themselves (Kurz et al 2022).

Conservation status: *S. barbatus* is listed as "vulnerable" by the International Union for Conservation of Nature (IUCN) (Luskin et al 2017; Kurz et al 2022). However, they are threatened by habitat loss and hunting in some parts of their range, and conservation efforts are needed to ensure their long-term survival.

The ecology of *S. barbatus* is shaped by their habitat, diet, social behavior, and interactions with other species in their ecosystem.

Peculiarities. *S. barbatus* has several unique features that distinguish it from other swine species. Here are some of the key peculiarities of *S. barbatus*.

Facial hair: the bearded pig gets its name from the tuft of bristly hair on its chin, which resembles a beard (Kurz et al 2022). No other swine species has this distinctive facial hair.

Large size: *S. barbatus* is one of the largest wild pig species, with adults weighing up to 150 kg (330 pounds) or even more. This makes it considerably larger than many other swine species (Kurz et al 2022).

Long legs: bearded pigs have relatively long legs compared to other swine species, which may help them navigate through dense vegetation in their forest habitat.

Omnivorous diet: while all swine species are omnivorous, the bearded pig has a particularly diverse diet that includes a wide variety of plant and animal materials (Kurz et al 2022).

Complex social structure: bearded pigs live in groups known as sounders, which consist of several adult females, their offspring, and one or more adult males. This social structure is more complex than that of many other swine species, which may live in smaller family groups or solitary (Davison et al 2019).

Rainforest habitat: the bearded pig is one of the few swine species that is adapted to life in the rainforest (Kurz et al 2022). It has a number of adaptations that help it survive in this habitat, including a keen sense of smell (Kurz et al 2022), good hearing, and the ability to navigate through dense vegetation.

The bearded pig has several unique features that set it apart from other swine species, including its facial hair, large size, omnivorous diet, complex social structure, and rainforest habitat.

Conclusions. *Sus barbatus* is the scientific name for the bearded pig, also known as the Bornean bearded pig. It is a species of pig native to Southeast Asia, specifically to Borneo, Sumatra, and nearby smaller islands. Bearded pigs are known for their distinctive appearance, which includes a beard-like tuft of hair on their chin, as well as long, sharp tusks. They are omnivorous and primarily feed on roots, fruit, and small animals such as insects. Bearded pigs are social animals and live in groups of up to 20 individuals. They are typically active during the day and rest in the shade during the hottest part of the day.

Despite being a common prey animal for many predators, they were long time considered a species of "least concern" by the International Union for Conservation of Nature (IUCN) due to their widespread distribution and relatively stable population. Now the species is considered "vulnerable". Conservation research on *S. barbatus* is important to ensure the long-term survival of this species and the ecosystems in which they live.

The anatomy and physiology of *S. barbatus* are adapted to their omnivorous diet and their habitat in Southeast Asia. The ecology of *S. barbatus* is shaped by their habitat, diet, social behavior, and interactions with other species in their ecosystem. The bearded

pig has several unique features that set it apart from other swine species, including its facial hair, large size, omnivorous diet, complex social structure, and rainforest habitat.

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

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