The pygmy hog, *Porcula salvania* Hodgson, 1847

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Abstract. The pygmy hog, *Porcula salvania* Hodgson, 1847, is a wild species of Suidae, currently critically endangered. The species was once widespread in Bhutan, India and Nepal, but is now only present in India (Assam), being endemic to that region. We aim with this work to make a brief retrospective and communication of the current status of the existence of this rare ungulate species. The pygmy hog is an example of successful captive breeding of wild mammals. Repopulations with pygmy hog in the old range have also proven successful. This species is not only critically endangered, but a reservoir of ancestral/wild genes, useful for future pig breeding, animal health and resistance to disease and harsh environmental factors.

Key Words: IUCN, Manas, *Porcula salvinia*, pygmy hog, red list, Suidae.

Introduction. The pygmy hog, *Porcula salvania* Hodgson, 1847, is a wild species of Suidae, currently critically endangered. The species was once widespread in Bhutan, India and Nepal, but is now only present in India (Assam), being endemic to that region (Narayan & Deka 2008). Currently there are about 100-250 adult pygmy hogs (www.wikipedia.org). Fortunately, the recent implementation of measures to protect the species has increased the chances of survival in the wild for this very rare species (Figure 1). We aim with this work to make a brief retrospective and communication of the current status of the existence of this rare ungulate species.

Figure 1. *Porcula salvania* (Photo: A. J. T. Johnsingh, WWF-India and NCF).

Description of the species. As the popular name of the species indicates, the pygmy hog is the smallest representative of the Suidae family. The male measures 61-71 cm long from head to tail, for a body weight of 8-10 kg. The female measures 55-62 cm long from head to tail, for a body weight of 6-8 kg (www.wikipedia.org). The newborn piglets weigh only 150–200 g (Mary et al 2013).

This small ungulate has relatively short limbs, a short, rounded back and an extremely short tail (2.5 cm) (Mary et al 2013). The body is grey-brown in color along the back and a paler shade on the ventral sides. The fur is longer in the scapular region. At birth, the piglets are pinkish-gray in color, but later, before they put on their adult coat, they turn brown, streaked with light ocher. Males are bigger and more robust than females as adults. They also have visible canines and a band of dark hair from the forehead to the nose. These animals grunt, but not very loudly. The sounds they emit are used for communication as they move through the dense vegetation of their habitat (www.wikipedia.org). Genetic analyzes have shown that the pygmy hog is the only representative of the genus *Porcula* and not a member of the genus *Sus*, as previously thought (Funk et al 2007).

Biology. Like the babirusa (Proorocu & Petrescu-Mag 2022), female pygmy hogs live in small groups, consisting of one or two adults and their young. Family groups can sometimes reach up to 20 individuals (www.wikipedia.org). The adults of the group are exclusively females. Males lead a solitary existence, except for the mating season, which begins towards the end of November (Deka & Das 2019). During the mating season, rival males compete with each other for access to females, displaying a menacing posture specific to boars. Pregnant females move away from the group in which they live to give birth to piglets, usually 4-6 piglets (Deka & Das 2019; Kumar et al 2021). The gestation period lasts between 110 and 130 days (Kumar et al 2021). Unlike the domestic pig, female pygmy hogs carry only three pairs of teats (Mary et al 2013). A special characteristic of representatives of this species, of both sexes, is to use nests throughout the year (Mary et al 2013). The entire family group uses the same nest, built in a depression in the ground and lined with grass.

Pygmy hogs have a varied diet, feeding on roots, grass, fruit, insects and earthworms (www.wikipedia.org). Each group occupies a small area close to the nest with an area of about 25 hectares (www.wikipedia.org) and uses the same routes, clearly visible through the impressive expanses of grass. These animals move in groups, with the adults occupying the first and last position of the group.

Distribution and habitat. In the past the pygmy hog was present in most of the foothills of the Himalayas in Nepal, Bhutan and India. These habitats, which are essentially flat, thinly forested, and well-drained, were known as "terai" (Oliver 1980). Pygmy hog is an indicator species of ‘‘terai’’ ecosystem (Mary et al 2013).

Over time, pygmy hog populations have dwindled (Mary et al 2013). In the 1960s it was even considered extinct, before being rediscovered in 1971 (Oliver 1980). However, the number of specimens continued to decline, and today the only consistent population is that living in Manas National Park in northwestern Assam (India) (Mary et al 2013). The species generally lives in floodplain habitats such as secondary forests, tall grasses, and mixed shrub associations. The species has been reintroduced and strictly observed in Rajiv Gandhi Orang National Park (Mary et al 2013) (see Figure 2).

Conservation. The lands with abundant grass where the pygmy hog lives have been almost completely destroyed by the expansion of human activities: agriculture and grazing of domestic animals. To this end, pygmy hog habitat was deliberately set on fire (Chakravorty & Sanyal 2017). The only large population of pygmy hogs is now limited to Manas National Park (Mary et al 2013), where, at present, about 100-150 specimens still live (www.wikipedia.org). However, even within the boundaries of the park area, the species is threatened by grazing, poaching and fires (Chakravorty & Sanyal 2017), while ongoing political unrest in the region seriously impedes the development of effective conservation measures.

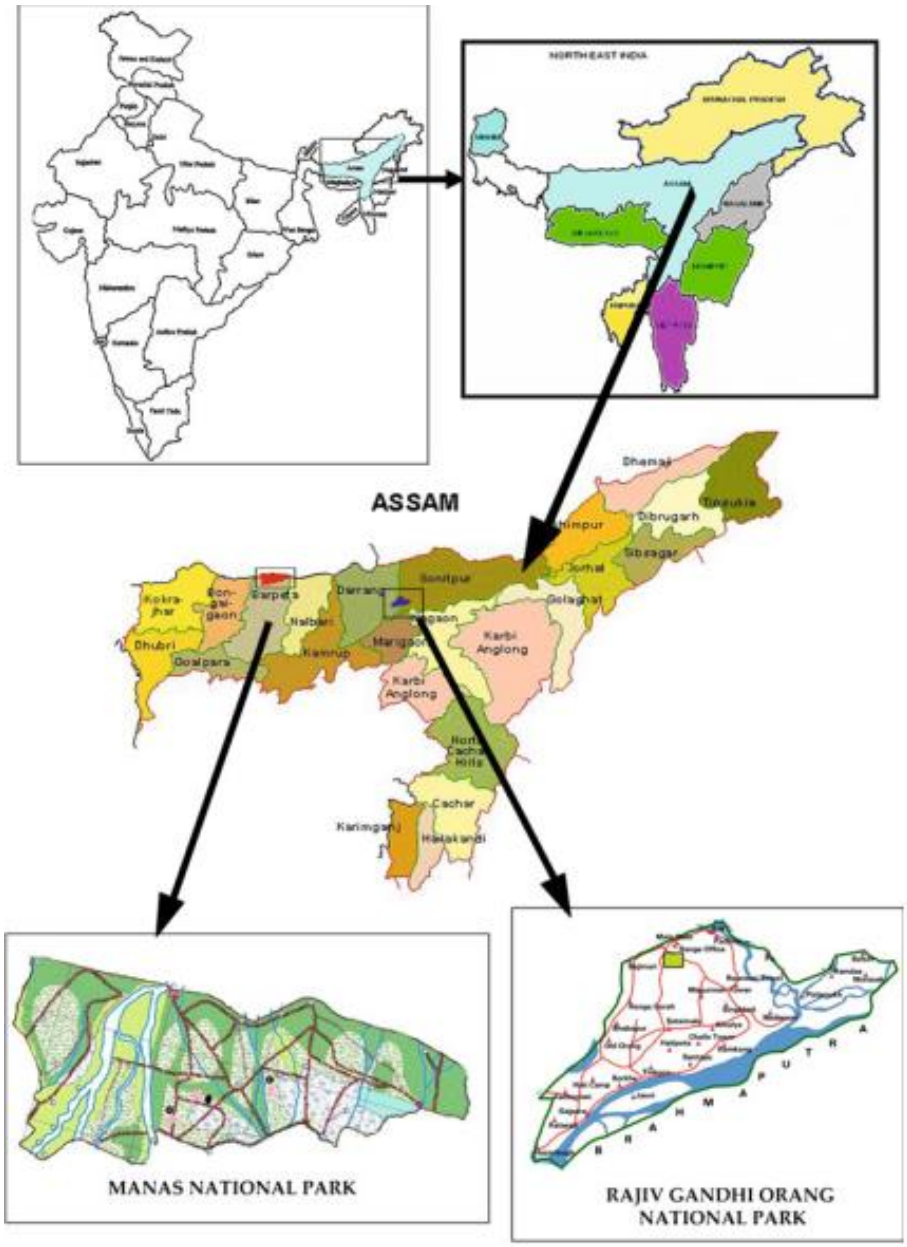

Figure 2. Location of Manas National Park and Orang National Park in Assam state, North-East India (Mary et al 2013).

The pygmy hog has been protected in India since 1972 (Schedule I of the Indian Wildlife (Protection) Act, 1972, cited by Mary et al 2013), and international trade of this species is prohibited under Annex I of the Convention on Trade International Convention on Endangered Species (CITES) (Narayan & Deka 2008).

Manas National Park was declared a World Heritage Site by UNESCO in 1986. In 1996, the Pygmy Hog Conservation Program (PHCP) was established (Mary et al 2013). PHCP staff have adopted a multi-faceted strategy, including field surveys, behavioral studies, captive breeding, staff training and local community outreach programs (Mary et al 2013; Narayan & Deka 2008; www.wikipedia.org). In 1996, the Pygmy Hog Research and Breeding Center was established near Guwahati (Assam), where, in 2000, 77 specimens, born from six original individuals, lived (www.wikipedia.org). Subsequently, captive breeding made further advances (Narayan et al 2008). Between 2008 and 2016, one hundred captive-bred pygmy hogs have been successfully reintroduced into the wild at three different locations in Assam, these being Orang, Sonai Rupai, and Barnadi.

Meanwhile, a further 60 individuals remain in captivity as a safety net population in order to continue to generate new pygmy hogs for future releases in the wild (Purohit et al 2021).

Taxonomy. *Porcula salvania* was the scientific name proposed by Brian Houghton Hodgson in 1847 who described a pygmy hog from the Sikkim Terai (www.wikipedia.org). Hodgson argued that the pygmy hog was a genus separate from *Sus* based upon its unique morphological differences, particularly pertaining to its skull and dental features (Hodgson 1847). Although this classification was not accepted for a long time, it was eventually returned to following genomic investigations (Funk et al 2007). *P. salvania* is the only representative of the genus.

Conclusions. The pygmy hog is an example of successful captive breeding of wild mammals. Repopulations with pygmy hog in the old range have also proven successful. This species is not only critically endangered, but a reservoir of ancestral/wild genes, useful for future pig breeding, animal health and resistance to disease and harsh environmental factors.

Conflict of interest. Authors declare that there is no conflict of interest.

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