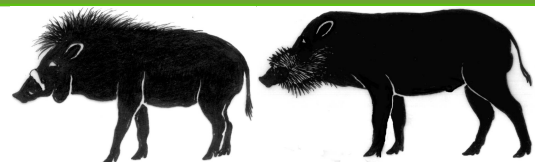


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Babirusa (*Babyrousa babyrussa*) on Buru island

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Introduction

The first description of Babirusa on the [Indonesian] island of Buru may be found in a letter written in 1584 by Fr. Bernardino Ferrari describing the wildlife on Buru. In his own words:

‘È l’isola del Burro molto fertile de victovaglie di queste parti, habundante de molti animali sylvestri, come de porci et altri animali di queste parti. Fra quali vi sono uni semeglianti al porco ma bianchi. E li due denti grandi, con i quali i porci combettono, questi animali le tengono diretti di modo che furan oil musso del detto animali, e uscindo sopra appariscono come due chiodi grandi.’

[amongst which [animals] there are some resembling pigs, but white. The two tusks which pigs use to fight with, these animals have straight, in such a way as to pierce the snout of the said animal, sticking out on top like two great nails] (Jacobs 1980).

Buru Babirusa depiction



Fig 1. Illustration of a recumbent Buru Babirusa from the frontispiece of Piso (1658).

published by Schotti in 1667 (Figure 3). The first author to visually place the animal in its geographical setting was Nieuwhof (1682) with a new, somewhat deer-like, characterisation of the animal in a standing ‘pose’, and being hunted (Figure 4). Johan Nieuwhof spent much of his life travelling, and spent a number of

It was not until the publication by Piso (1658), one hundred years later, that further anatomical information was made available (Figures 1 & 2). It is not so obvious from the first illustration, which was on the frontispiece of the book, that the Buru Babirusa has ‘long’ hair (when compared to Babirusa from North Sulawesi), but it is quite clear from the second illustration. Distribution of this information was assisted by the (rather poorly worked) copy of the image which was

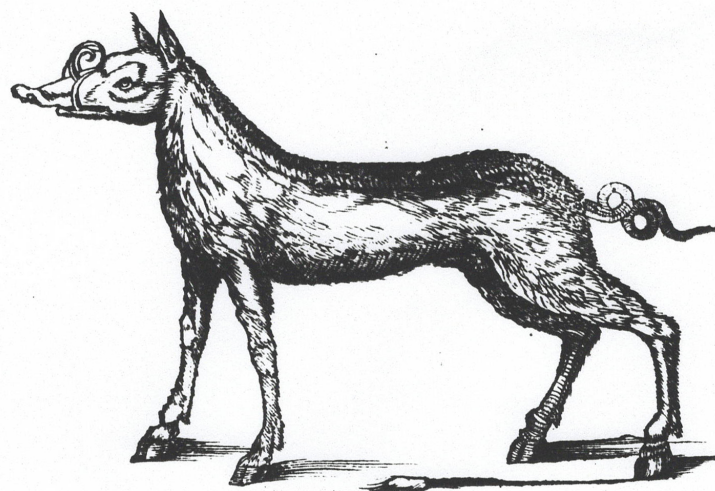
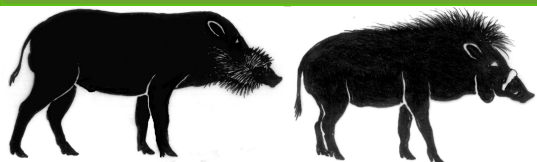


Fig. 2. The first illustration of a hair-covered Buru Babirusa, from page 61 of an appendix to ‘De Indiae Utriusque re Naturali et Medica’ by W. Piso (1658).





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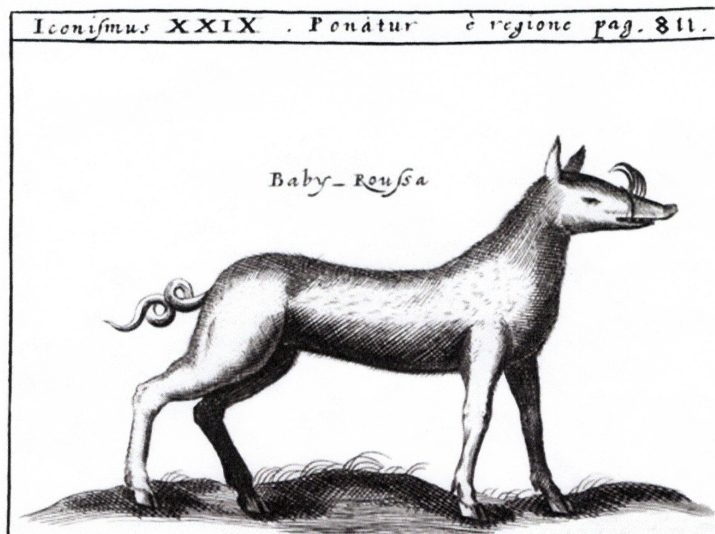
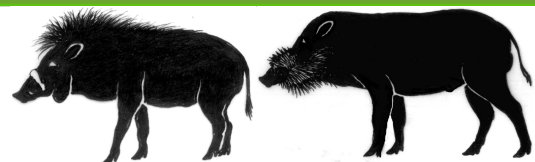


Fig. 3. Largely a mirror-image copy of the Buru Babirusa in Figure 2, published by Schotti (1667).



Fig. 4. The first image of the Buru Babirusa 'in situ', with one animal in the background being hunted (Nieuhof, 1682).

years in Batavia (now Jakarta, Java) as an employee of the Dutch East India Company (VOC). The landscape in the illustration seems to better reflect his observations on Java than the countryside of Buru. However, he has depicted the animal with hair, particularly under its chin.

Georg Eberhard Rumphius (1627-1702), was based as an employee of the VOC in Ambon from 1654, and from 1662 undertook a study of the flora and fauna of Maluku. He made considerable contributions to our knowledge, but sadly the manuscripts and illustrations of many of the animals, which were due to go into 'three other books concerning Land-, Air- and Sea-animals of these islands', were never published and were subsequently lost (Beekman, 1999).

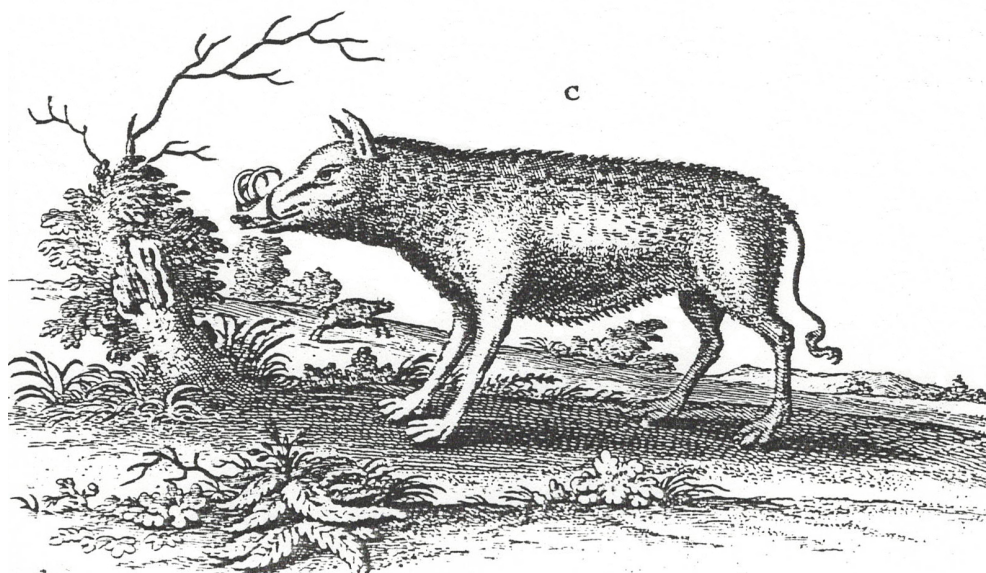
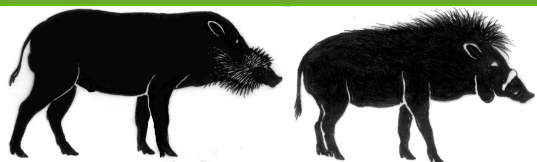


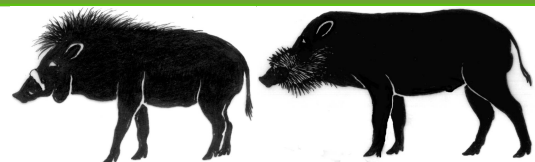
Fig. 5. The Buru Babirusa published by Valentijn (1726) clearly depicting its hair cover, and from the shape of its feet, suggesting that it may have been 'kept as a pet'. A second Babirusa can be seen running in the background.

However, we are fortunate to have the 'encyclopaedic' books of someone who knew him personally, François Valentijn; he lived in the East Indies for 16 years. Valentijn also set his much more hairy representation of the Buru Babirusa in a landscape





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setting (Figure 5). It is most likely that he had seen one in Ambon, and the possibility that he had seen one in Batavia cannot be excluded. The portrayal is much more realistic with respect to body proportions. However the splayed anatomy of the feet suggests that the artist had seen an animal which had spent some years retained in someone's garden rather than in, or freshly caught from, the wild. Interestingly, Valentijn says that Robbert Padbrugge, the governor of Ambon (1682-1687) kept one at his place.



Fig. 6 This illustration of a somewhat overweight Buru Babirusa, published by Seba (1734) has also got foot problems suggesting that it too may have been drawn from a kept animal.

someone's 'yard'. The depiction published by Halle (1757) suggests that it was based on the reported observations of an animal from the hills of Buru. Goldsmith's illustration (Figure 9) perhaps suggests that the artist modified and composed the head from earlier illustrations, and put it onto the body of a local bovid. There are two instances of direct copies of earlier illustrations; that by Anonymous (1770) of the one in Valentijn (1726), as illustrated in this issue by Meijaard et al, and the depiction of Seba's 1734 image by Borowski (1780). At the turn of the century, Bewick published this picture of a robust pig with hair (Figure 10) to represent the Buru Babirusa.

There are several other illustration of the Buru Babirusa during the eighteenth century. The ones by Seba in 1734 (Figure 6), Goch in 1736 (Figure 7), Halle in 1757 (Figure 8) and Goldsmith in 1779 (Figure 9) each depicting an animal with a coat of hair. Each of these representations now show the typical anatomy of (healthier) pig's feet, and although the general morphology of the depiction carries some influence from earlier illustrations, each one is new. The illustration by Seba suggests an overly-fed animal, again suggesting reported observations of an animal in

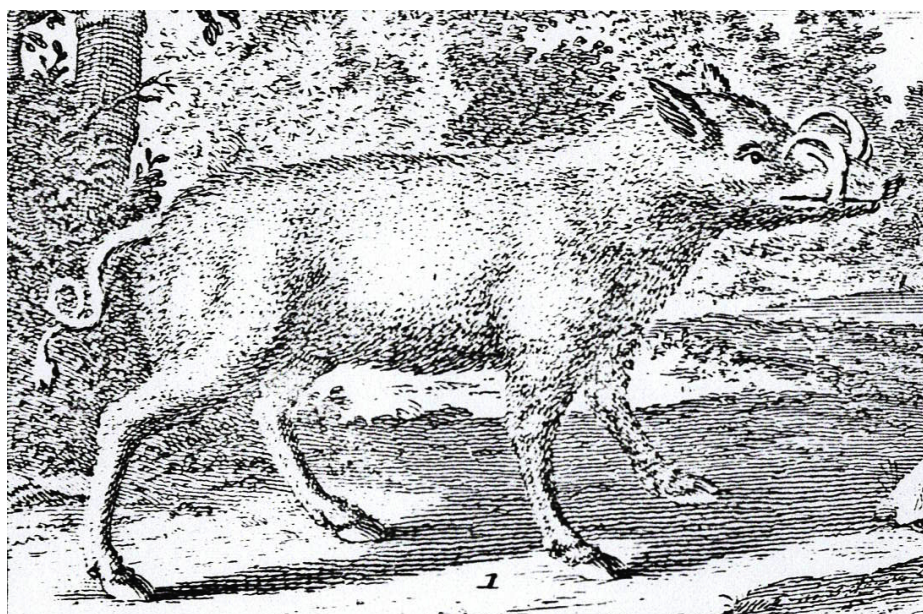
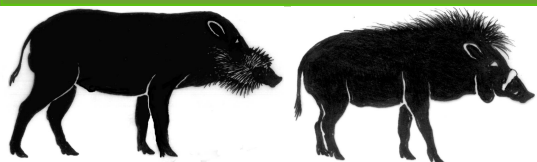


Fig. 7. The Buru Babirusa published by van Goch (1736).

Cultural observations

Somewhat surprisingly, very few people in the last 200 years have gone to Buru to learn more





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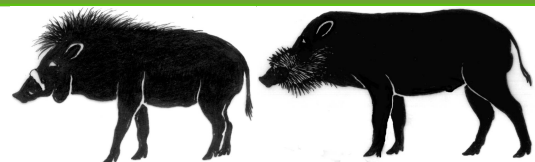


Fig. 8. The heavily haired Buru babirusa published by Halle (1757) does not suggest a portrait.

So what is the Babirusa called on the island of Buru? In the local language(s), we mean (how many languages?). Are there separate words for the male and female Babirusa, the boar and the sow Babirusa. Does the sow farrow and have a litter of Babirusa piglets? What, in the local languages, is the nest where Babirusa sleep called? What is Babirusa pork/ham/bacon called, in the local language(s)? The word 'donit' has been published as being a local word for Babirusa. But there are other words: 'gonit' and 'ronit' sound very similar, but there is also 'bodi' and 'hamune'. What do these all refer to? What language? Older people may know, but may be shy to say. Folk in more remote villages may know. And then there will be the secret hunting words – perhaps like 'he who carries his teeth high' – spoken quietly so as not to let the knowledge of the hunt escape to the ears of the forest. And we are losing these words, the local people with their bahasa Indonesia learning environment at school, are not using the local words so much – perhaps they are becoming 'not cool', or are just forgotten. When the animals 'go' the words and stories and culture to describe them will go too. What do people on Sanana island (Sula Besi) say about Babirusa? What do people on Lifamotola island say about Babirusa? What do people on the island of Banggai, near the east coast of Sulawesi, say about Babirusa?

Babirusa and wild *Sus scrofa* observations

And what do we know of the population of Babirusa on Buru? In the 1600s and 1700s there were many Babirusa (Valentijn, 1726). But what about now? In order to get a first impression, a survey

about the biology of this animal, despite many hundreds of adult male Babirusa skulls from that island finding their way into museum and private collections. The forth-coming book chapter by Sheherazade et al (2017) gives an overview of what is known. As shown above, there are pieces of knowledge which have rested on library shelves or in filing cabinets for many decades, centuries even, and have been lost to view. Recent personal experience in the Ambon area indicates that it is important to deliver that information to a wider audience.

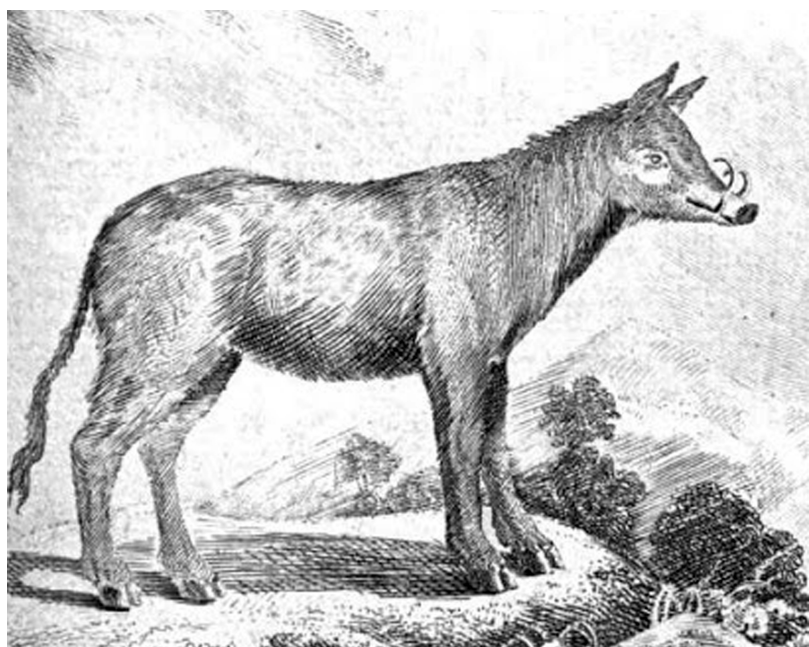
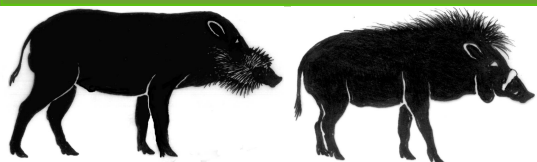
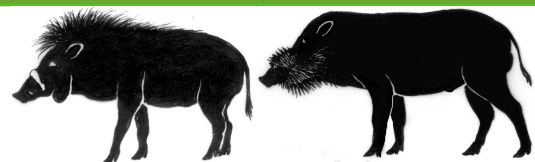


Fig. 9. It is highly unlikely that the artist who drew this illustration of the Buru Babirusa from Goldsmith (1779) ever had the opportunity to see one.





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of the north coast of Buru was conducted in villages and settlements along the route of one of the island's few roads (then), in August 1990. It was carried out by the senior author, a resident of Ambon. For convenience, the villages were geographically categorised to the east of the village of Namsina, and to the west including Namsina. Thus the 32 villages situated in the 'North east' of the island were:

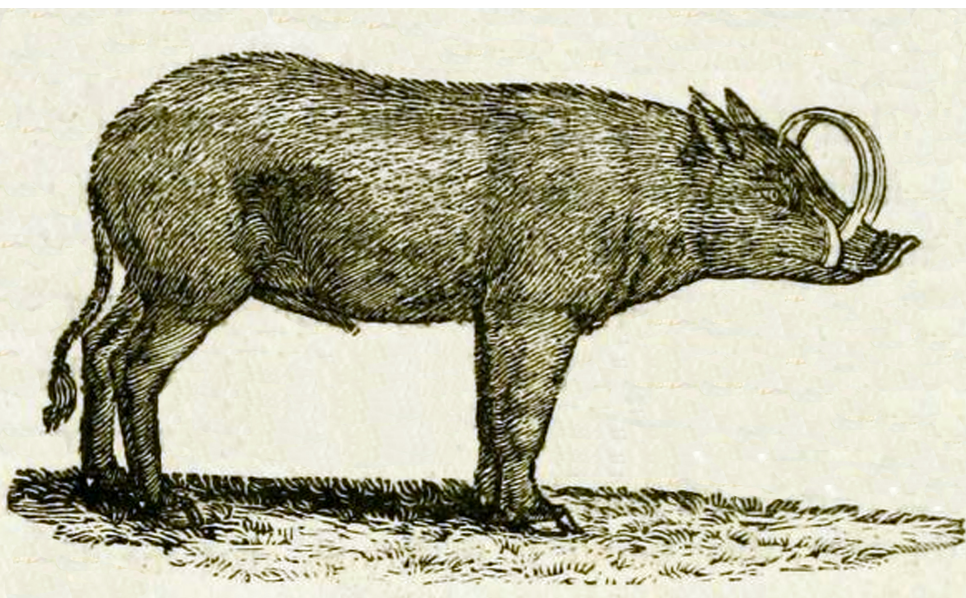


Fig. 10. This robust pig by Bewick (1800) presents the canine teeth and hair-coat characteristics of the Buru Babirusa on what seems to be a domestic pig 'frame'.

Batu Jungku, Waemorat, Saliong, Pela, Seit, Masarete, Kayeli Sael, Wa Aisil, Tifu, Kubu Lahin (unit 16), Samleko, Savannah Jaya, Unit 14, Gorea, Unit 15, Waikasar, Mako, Siahoni, Lamilun, Batuboi, Marloso, Lala, Ubung, Liku Merasa, Waimiting, Sawa, Waeperang, Rata Gelombang, Lamahang, Wa Ura, Waplau and Samalagi.

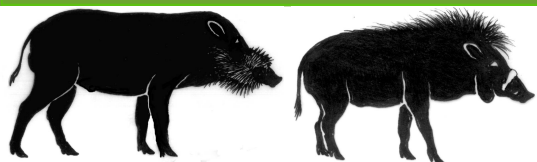
The 13 villages categorised as 'North west' villages were: Namsina, Hatawanue, Wailihang, Waprea, Wa Potin, Wa Nibe, Wae Kose, Wa Mlana, Wa Mangi, Air Beraya, Air Buaya, Wa Langa and Bara.

A total of fifty sets of data were collected from individual men in these locations. The men ranged in age from about 20 to about 75 years of age, and were categorised as: 20-29 years (13); 30-39 years (28); 40-49 years (6); 50-59 years (2); 70-75 years (1). They were asked first if they had seen Babirusa in the last five years? Thirty four said 'no' and sixteen said 'yes'. Those saying 'no' came largely from the 'North east' of Buru (26), with eight from the 'North west' saying 'no'.

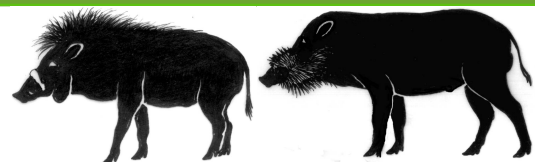
Nine correspondents from the 'North east' and seven from the 'North west' of the island had seen Babirusa in the last five years. They were asked to give an approximate number of the Babirusa seen in the last five years. Although estimates ranged from ca. 10 to ca. 75, correspondents from the 'North east' reported ca. 30 (1) ca. 50 (7) and ca. 75 (1); those correspondents in the 'North west' of the island reported ca. 10 (1), ca. 20(1), ca. 30 (1), ca. 50 (3), ca. 75 (1). When asked when they last saw Babirusa, the replies were: ca. one week ago (5); two weeks ago (6); three weeks ago (2); one month ago (1); two months ago (1), three years ago (1). When asked where they had seen Babirusa, all replied that they had been up in the mountains.

When asked if they had seen more or less babirusa in the last five years, three from the 'North east' said they had seen about 20-30 'more'; and the other 13 correspondents who had seen Babirusa said that they had seen 'less', the estimate of decline ranging from ca. 10 to ca. 30 fewer Babirusa.





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When asked if the Babirusa have long or short hair, the hair-length estimates reported were 3-5cm long (15). They said that the hair was light brown in colour (15), with one respondent indicating it could be grey with a bit of light brown and another reporting light brown with a bit of white. There was general uncertainty when asked what the Babirusa ate; replies of grass (3), fruit (3), rotten wood (4) Meranti tree fruit (5), Rattan (5) and leaves (9) were given. Interestingly, one correspondent said Babirusa will only eat food which is on a tree branch, or is fruit; they only eat clean food which has not touched the soil, he said.

When asked for any additional comments, the following were collected: the lack of long canine teeth in the female Babirusa (8); Babirusa run uphill rapidly (6); Babirusa do not like white dogs (3); Babirusa are strong (3); Babirusa 'walk alone' or perhaps up to three together (2); although not as wild as the other forest pigs, they are still dangerous (1).

Questions were also asked about the other wild pig on the island, *Sus scrofa*. All fifty correspondents, when asked if they had seen this wild pig in the last five years, replied 'yes'. When asked 'how many', they replied: ca. 100(11); ca. 150 (10); ca. 200 (23); ca. 250 (1); ca. 300(5). When asked when last seen, they replied: yesterday (20); within the last week (29). When asked where they saw them, the general answer was: forest (47); beside the sea (13); open countryside (49). All reported that more wild pigs (*Sus scrofa*) had been seen in the last five years than previously, and that the increase was: ca. 25 (5); ca. 50 (18); ca. 75 (11); ca. 100 (13); ca. 125 (2); ca. 150 (1).

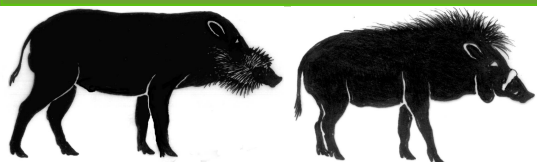
When asked for any additional comments, the following were collected: They 'go mad' when wounded (12); they have black skin (7); they are very aggressive (2); they are found in small groups of 3 to 5 animals (2); they used to sleep near the village (2); their flesh is soft (1); they sleep near holes they dig to get worms (1); their numbers are increasing because not so many are hunted now (1); they roar loudly when wounded (1).

These results indicate that the population differences between the two genera of wild pigs on Buru is striking, with *Sus scrofa* apparently increasing in number and the Babirusa in decline. This small amount of data also seems to indicate that there is a striking difference in preferred habitat; the wild *Sus scrofa* has seemingly habituated to human presence whereas the Babirusa appears to have retired into the less human-accessible regions of the island. This may be related to differences between the genera in preferred diet, and may also hint at the availability of appropriate food resources. Although no measurements appear to have been made on the litter sizes of Babirusa on Buru, experience from elsewhere (Ziehmer et al, 2010) suggests that Buru Babirusa sows may deliver fewer piglets at the end of gestation than the number of piglets born of wild *Sus scrofa* on Buru.

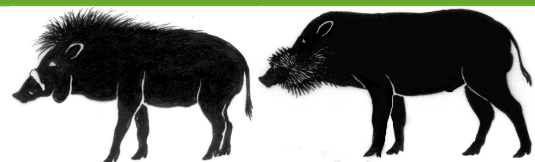
Conclusions

Simple questions asked consistently over time, or of a local population, can yield clues as to the historical and current status of knowledge of an animal and its population numbers. Sensitivity to the local culture and way of life can enable insight. Little is known about many aspects of the biology of the Buru babirusa, and perhaps the local people are forgetting what they once knew.





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There is a need for more up-to-date information, and a need to collect the fragments of personal experience scattered through the human population on Buru. There is also a need to publish and distribute that gathered and analysed information.

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