scattered whereas the Javan rhino has built up large populations in single areas (Sody 1959). The Sumatran rhino seems to walk over great distances. Groves (1966) called it a "wanderer". As I do not know yet enough about the ecology and especially the home range of the rhino, I can not give a proper estimation of the number of animals occuring in the Aceh area. At present I can only give a minimum number. If I only take into consideration the tracks I found myself, include the variability of footprint measurements and a safety distance of 10 km between footprints of the same size, I have recorded the tracks of at least 8 different animals.

Tab. 2: Footprint measurements of eight different animals

area	width of hindfoot
Kompas	19,5 - 20,5 cm
	21,5 - 23 cm
Southern Mamas basin	17,5 - 19 cm
	23 - 24,5 cm
Western Mamas	23 - 24,5 cm
	21,5 - 22 cm
Northeastern Mamas	22 - 23 cm
	18 - 19,5 cm

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An estimation of the number of animals in the Province of Aceh, especially the Gunung Leuser reserve, will be made in a later progress report.

5.5. Immature animals

Twice I have seen tracks of two different animals which probably have been at the same place at the same time. The first time, in the Southern Mamas basin, I found prints of 23-24,5 cm together with prints of 17,5-19 cm. A second time, in the Northeastern Mamas basin, I found footprints of 22-23 cm together with prints of 18-19,5 cm. The larger footprints were definitely of adult animals whereas I suspect the smaller ones to originate from immature rhinos.

I never found a real small footprint, and Pawang Husin has only seen once in his life a very small rhino footprint. Schenkel (1969) states that the hindfoot measurements of an Indian rhino of 6½ months differs only a few centimeters from those of an adult animal. If this is the case with the Sumatran rhino too, the two measurements of 17,5-19 cm and 18-19,5 cm could indicate young animals.

5.6. Rhino habitat

The rhino habitat in the Aceh Province of Sumatra is situated in an altitude of 1100 to 1900 m. Botanically spoken it is situated in an area where the primary montane forest is changing to damp moss forest. In this region the highest canopy is missing and the remaining trees do not close the second canopy, sunlight is therefore occasionally reaching the ground. There are few herbs, but the ground is all covered with moss. The greatest part of the vegetation consists of small, 3 to 5 m high trees. The temperature is in the night between 11° and 14°C, in daytime between 19° and 23°C.

The rhinos feed mainly on the little trees. As the leaves are too high to reach, the rhinos brake these trees down by simply overrunning them. (Detailed information about ecology and behaviour will be given in a final report).

The rhino habitat in the Gunung Leuser area is restricted to primary forest. Natural secondary growth along rivers and on erosion fields are not used by the rhinos.

5.7. Occurance of the Javan rhino

In the Dutch time the Javan rhino occured in Aceh. Several animals were hunted, one of them by the German geologist W. Volz in 1904 who published a photograph of the rhinohead in his book (Volz 1912).
In his report Kurt (1970) gives evidence, that the Javan rhino still may occur in Aceh. He is basing this suggestion on his hindfoot measurements of rhino prints. I found sometimes single footprints up to 30 cm too. But in following a trail it could be easily proved in all cases that these measurements were not taken from a single footprint but from a print which consisted of a forefoot print with an overlapping hindfoot print.
The prints of the hindfeet are placed about 4 cm more sidewards compared to the front feet, and sometimes are completely overlapping the frontfeet. This may give the impression of a single big footprint.
During my survey I definitely never found a hindfoot print exceeding a width of 25 cm. Therefore, I strongly doubt that the Javan rhino still exists in Aceh.

6. Elephant

Elephant trails can be found all over the Gunung Leuser area and its peripheries. As the elephant is feeding mainly on secondary growth, its optimal areas are situated in the large river valleys. I found evidence of a herd(s) in the Alas valley near Lawe Renun and Lawe Serakut as well as on the lower mountain ridges near the Kompas river. Over an altitude of 1200 m, secondary growth is rare. In these suboptimal areas I found only evidence of solitary animals. A net of trails from solitary animals is covering most of the higher areas. I found these trails up to an altitude of 2600m. As the animals use these trails only occasionally (every 3 to 6 months) they are not maintained as well as the lowland trails. Twice I found footprints of a young animal wandering with a herd of at least 4 adult elephants.
The optimal area of the elephants is the Alas valley, which is an optimal area for shifting cultivation as well. The elefants seem to keep their traditional migration routes, even if there are ladangs and new villages in their way. In a village south of Meranti a man was killed last year when elephants destroyed fields and village houses. The police shot one animal after this had happened. But every 4 to 6 months the remaining (3?) elephants come back and penetrate into the ladangs.
In the Bengkong area I found 2 elephant traps, which had been built by fishermen working in this region. Probably the elephants are not hunted for the tusks or meat, but simply out of fear.
If the newly built villages and ladangs cannot be kept out of the elephant areas I have small hope for the survival of the elephant in the Gunung Leuser reserve.

7. Orangutan

The range of the Orangutan in the Gunung Leuser area is covering a much larger region than was known until now (see Fig. 5).
In addition to the already known areas I found Orangutans in the Kompas area and especially in the Mamas basin. The Orangutan is also occuring in higher altitudes than was thought until now. I have seen an Orangutan as high as 1800 m.a.sl. (Kurt gave a limit of about 1500 m). In these altitudes the population seems to be very thin, but in the Mamas basin I could regularly see nests and I heard the long range call of males at an altitude of 1400 - 1600 m.
About half the Gunung Leuser reserve is offering a good habitat for the Orangutan. Therefore, this reserve seems to be suitable to protect this species.