

CONTRIBUTION TO THE KNOWLEDGE OF THE GEOGRAPHICAL RACES OF *PONGO PYGMAEUS* (HOPPIUS)

by

A. C. V. VAN BEMMEL

Royal Zoological Gardens, Rotterdam

Keeping and breeding animals which are threatened with extinction in their natural habitat, should be one of the most important tasks of zoological gardens today. Efforts should be focussed on finding the zoo-technical solution of problems which will arise inevitably, especially if rare species, or those that have the reputation of being difficult to keep or to breed, are concerned.

The Orang-Utan (*Pongo pygmaeus* (Hoppius)) has been kept in Zoos for more than a century. As a matter of fact this species was on exhibition regularly in the Zoos of the Netherlands during the nineteenth century. Orang-Utans were, a hundred years ago, much more common in the Zoological Gardens of Amsterdam and Rotterdam than Chimpanzees. Longevity records however were very poor indeed. Hundreds and hundreds of these apes must have been imported on Dutch ships to keep up a regular stock. This is not surprising, because the least knowledge of the basic needs of these apes was lacking. Unsuitable food, lack of medicine and the wrong opinion that tropical animals should be kept in overheated quarters, caused the death of innumerable animals. The direct cause of death was either intestinal trouble or Tuberculosis. Under these circumstances breeding could not be expected. The first female Orang-Utan which came to a Zoo with its baby, the famous Buschi in Dresden Zoo, caused quite a sensation. But even in recent times the breeding of apes proved to be difficult. With better zoo-technical knowledge, Chimpanzees can be bred regularly. Orang-Utan and Gorilla however maintained the reputation of being difficult breeders. The first Zoo that started breeding Orangs regularly was Philadelphia. Afterwards several other Zoos, among which the Royal Rotterdam Zoo, succeeded in building up a breeding group. The Rotterdam Zoo was the first in breeding a second generation.

This should be mentioned because, as long as a certain animal species in a Zoo is never or rarely bred, the exact determination of a specimen is not very important. A systematic zoologist may do his utmost to find the subspecific name of such a living animal, many characters are founded on skull and skeleton and in many cases the exact determination can wait till the animal enters a museum collection after its death. If however, a rare species, vanishing from its natural habitat, can be bred and raised successfully in a Zoo, things become different. In breeding such animals our duty should be to raise purebred stock, using pairs belonging to the same geographical race. This has been overlooked in the case of the American and European Bison. The species have been saved by the Zoos, but the animals living at present are just a concoction of subspecies vanished for ever from the earth.

The Orang-Utan is an animal species threatened with extinction. There is a possibility of saving it by breeding in captivity. Orang-Utans are still kept in sufficient numbers to make possible the selection of the breeding stock. So we should try to select breeding pairs which belong to the same subspecies and avoid the mistake made in the case of the Bison species. This seems easy, but it is not. The animals coming to Zoos are often of unknown origin. Mostly they are very young and a good description of the characters of the populations in North Sumatra and different regions in Borneo is lacking. The aim of this paper is to give my colleagues some aid in the determination of Orang-Utans which come into their hands. I hope this will contribute towards avoiding the breeding of "cocktail" Orang-Utans, which bear no resemblance to any wild animal.

It is a pleasure to dedicate this small paper to my good friend and promotor Henk Engel. Our mutual conviction about systematics as a branch of science

with its own aims, will not be affected by a case like this, in which systematics prove to be of eminent practical value.

It cannot be the aim of this paper to discuss at length the problems in nomenclature of the Orang-Utan. The name of the species should be *Pongo pygmaeus* (Hoppius, 1760). Many authors have discussed the question whether any subspecies should be recognized at all. Quite a long list of subspecific names is available, but many of those are based on one or a few specimens only. A revision of the geographical races would be very useful, but must be almost impossible with the material available. I will not try therefore to undertake such a hopeless task here. Even an excellent systematicist like F. N. Chasen, who had not only seen a lot of material of Orang-Utans in museum collections, but also hundreds of living animals, could only tentatively recognize two subspecies, that from North Sumatra and that of Borneo (CHASEN, 1940). This had already been done by R. P. LESSON (1827). The descriptions by Lesson, which can hardly be used as a differential diagnosis, leave two distinguishing characters: the coat of that from Borneo is described as "noir", from Sumatra as "roux foncé"; the specimen from Borneo has a length of 4 feet, that from Sumatra of 6 feet 5 inches.

M. W. LYON (1908, 1911) gives descriptions of 17 specimens from Sumatra and 48 from Borneo. LYON (1911) writes: "I have been unable to discover any differences between orangs from Landak River region and those from southwestern Borneo. In fact, it is with great difficulty that I have been able to find any tangible differences between the orangs of northern Sumatra (1908) and those from western Borneo. This difficulty is no doubt due in part to the bulkiness of the specimens and the resulting inability to get a view of both series as a whole, as can so readily be done with small mammals in a tray.

The Bornean orangs, however, appear to be slightly larger externally and cranially; to be lacking nails on the great toes almost entirely; to have less conspicuous beards; and to possess less hair about the head and neck generally." LESSON (l.c.) also described the Sumatran specimen as having a heavy coat and a beard and did not mention these features in his Bornean specimen, except his remark that breast and belly were naked.

Returning to CHASEN (1940), it seems worth while to cite his note: "During the last eighteen years I must have seen several hundreds of orang-utans in captivity in Singapore where, until recent concerted action of the Dutch and British Governments re-

duced operations to a reasonable limit, the entrepôt trade was very large, but I have never been able to compare, directly, a reasonable number of precisely localized specimens and therefore cannot confirm the existence of two races. Nevertheless, it always seemed to me, as far as it was possible to compare things seen at intervals of time and in different places that, on the average, the more cinnamon and less maroon coloured adults came from Sumatra and the more deeply coloured, almost purple-maroon beasts from Borneo. Furthermore it is my belief that I have never seen a Bornean specimen alive that equals in size any of several old males from Sumatra. This again is, of course, evidence of no great value."

This evidence of different authors makes clear that it is very difficult to find good differences between Orang-Utans of the two islands, anyway in museum material. Now the present author had the opportunity to have a whole family of Orang-Utans originating from Deli, Sumatra, at hand for several years; to see the babies born and grow up and to have photographs taken of animals of exactly known age. In this way the image of what a Sumatran Orang looks like became printed in his mind. I met with several Orangs from Borneo during and after that time. In groups I never had any difficulty in picking out the Sumatran specimens. In living animals the shape of the face is most characteristic. The Sumatran Orang-Utan has an elongated, rather flat face, more or less O-shaped. Of course, during the development from a baby to an adult animal the face changes. Specimens from Borneo (of which only a few were of known origin and those came from Serawak) never showed these characteristic elongated faces. They were more or less compressed under the jugals and their faces were shaped more or less like the figure 8. Not only is this feature to be seen clearly in living animals, but also on many photographs. If plate LVI in the paper by LYON (1908) is compared with plate 5 in LYON (1911) this is already obvious.

The difficulty for me still is to understand the variability of the Bornean specimens I saw. They never have the typical elongated face of the Sumatran subspecies. The colour, always rusty-red and light cinnamon in Sumatran specimens, varies from that same colour to very dark maroon or even blackish brown in the Bornean animals. The colour of the face varies a lot. Many have very light-coloured eyelids. I cannot say anything about the size. Maybe Chasen is right in believing that Bornean animals on an average are somewhat smaller. This question could only be settled if sufficient living animals of

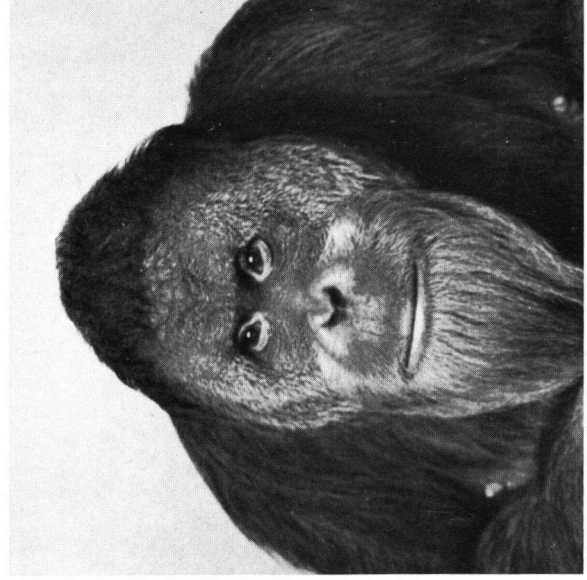
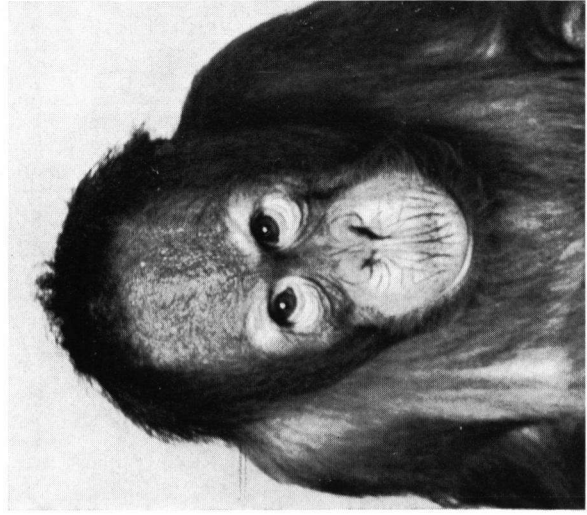
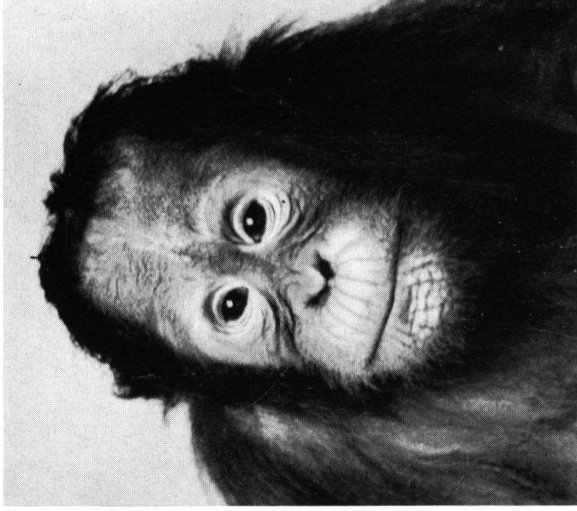


Plate 1. Sumatran Orang Utan (*Pongo pygmaeus abelii* Lesson), males. Upper row from left to right: 6 months, 10 months, 3 years old. Lower row from left to right: 5 years, 13 years, full grown.
Foto's C. van Doorn

Foto C. van Doorn

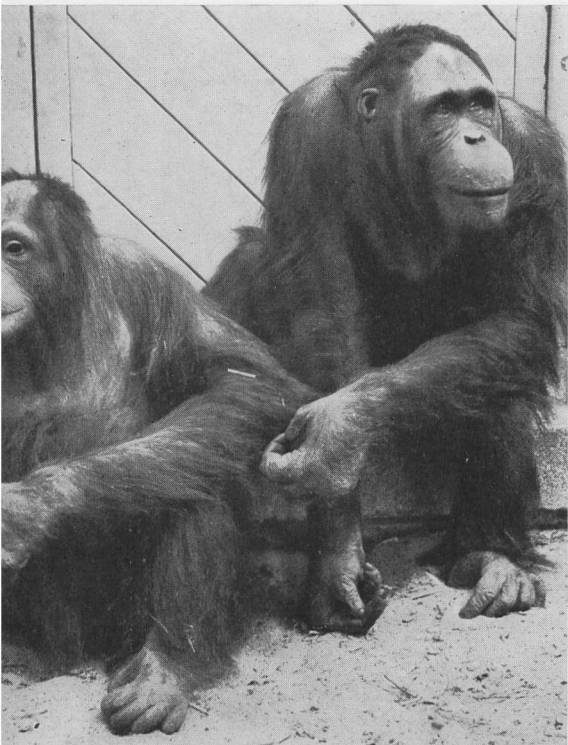


Plate 2a. Pair of Bornean Orang Utans (*Pongo pygmaeus pygmaeus* (Hoppius)). Female (l.) 6 years old, male (r.) 8 years old.

Foto M. Lange

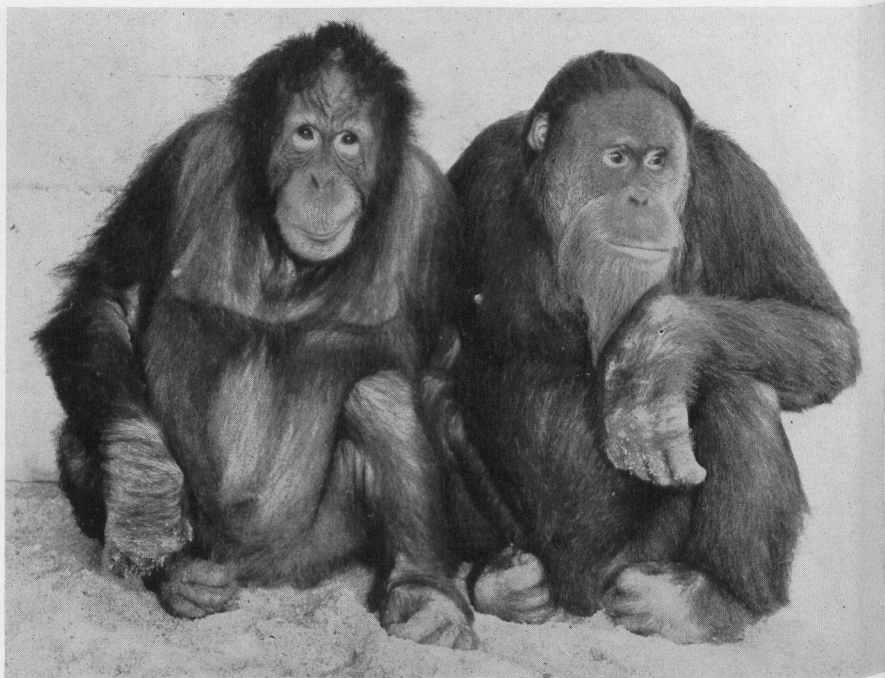


Plate 2b. Pair of Sumatran Orang Utans (*Pongo pygmaeus abelii* Lesson). Female (l.) 8 years old, male (r.) 10 years old.

Plate 3a. Full grown male of Bornean Orang Utan (*Pongo pygmaeus pygmaeus* (Hoppius)).

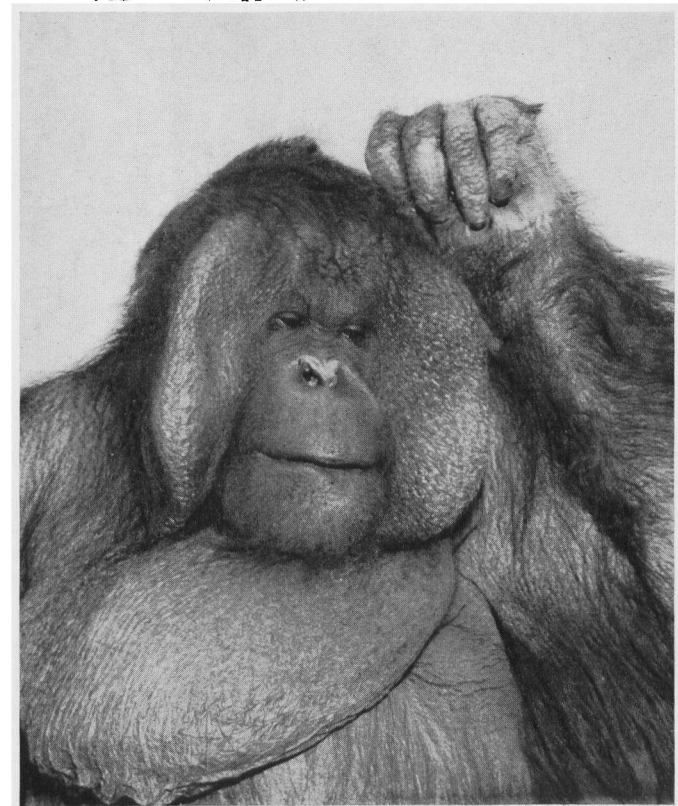
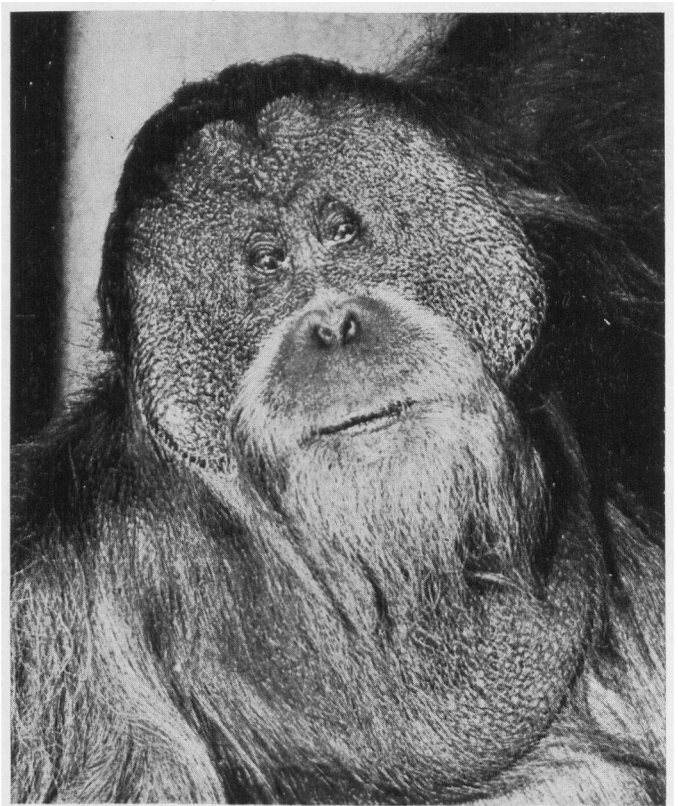


Plate 3b. Full grown male of Sumatran Orang Utan (*Pongo pygmaeus abelii* Lesson).



exactly known origin from Borneo were to be compared or their photographs taken in the right position and compared afterwards. Maybe from Borneo more than one geographical race could be recognized. For the time being all Orang-Utans from Borneo should be treated as one race, for which the name *Pongo pygmaeus pygmaeus* (Hoppius), type locality by designation Borneo, is available.

For the geographical race of Sumatra I propose the following diagnosis:

Pongo pygmaeus abelii Lesson, 1827.

Type locality: Sumatra.

Diagnosis: Characterized by a clearly elongated face,

hardly constricted below the jugals. The face is much flatter than in any Bornean specimen. Colour light rusty-red or reddish cinnamon. Full-grown specimens perhaps somewhat larger than most Bornean specimens. Beard in males, long, well developed, never missing. Cheek pouches start growing at an age of 10 years, are never fully developed before an age of 15 years at least.

ACKNOWLEDGMENTS

I have to thank Mr. C. van Doorn for the trouble taken in making the photographs and Dr. A. M. Husson for his help in finding some of the literature.

REFERENCES

- BEMMEL, A. C. V. VAN, 1959: Keeping apes at Rotterdam Zoo. The International Zoo Yearbook I, p. 16-18.
 — 1963: Das Züchten des Orang-Utan im Zoo. Zeitschr. Morph. Anthrop. 53, 1/2, p. 65-71.
 CHASEN, F. N., 1940: A Handlist of Malaysian Mammals. Bull. Raffles Museum 15, p. 60-62.
 LESSON, R. P., 1827: Manuel de Mammalogie, p. 32.
 LYON, M. W., 1908: Mammals collected in Eastern Sumatra by Dr. W. L. Abbott. Proc. U.S. Nat. Museum 34, p. 676-677, Pl. LV, LVI.
 — 1911: Mammals collected by Dr. W. L. Abbott on Borneo and some small adjacent islands. Proc. U.S. Nat. Museum 40, p. 144-145, Pl. 5, 6, 7.