

**The Sarawak Museum Journal****Vol. LXV No. 86****December 2008****ISSN: 0375-3050****E-ISSN: 3036-0188**

Citation: A. Baer. (2008). Orangutan: History, myth, oblivion. The Sarawak Museum Journal, LXV (86): 339

ORANGUTAN: History, myth, oblivion**A. Baer****Abstract**

The orangutan's fossil record is outstanding among Asian primates. Orangutan ancestors appeared some 10 million years ago (MYA). DNA studies show orangutans evolved in Asia by 1 or 2 MYA, and the Sumatra and Borneo species separated at least 1 MYA. Orangutans survived the upheavals of the Pleistocene age, spreading from the mainland to islands on the Sunda Shelf. Populations in Borneo diverged genetically over 800,000 years ago. When modern humans came on the scene some 50,000 years ago, they became the main predator of orangutans, especially when human populations and forest destruction soared. Europeans took an early toll with guns and trade in exotic animals for zoos, science, and amusement, but Asians soon did likewise. As a result, orangutan numbers have declined by 90% since 1900, largely due to forest loss. While free-ranging orangutans seem doomed to extinction, one counter-indication is the taboo on hunting or eating orangutans observed by Muslims and some forest groups, such as Iban. Orangutans also personify supernatural beings in some indigenous cultures and are thus important in spiritual beliefs. Without orangutans and their forests, the fullness of these cultures will be lost forever.

ORANGUTAN

History, myth, oblivion

by
A. Baer

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Before modern humans invaded the orangutan world

The roots of the orangutan tree of life are longer than its branches. Primates similar to orangutans appeared in Asia at least ten million years ago and their descendents spread widely. Paleontologists have given names such as *Sivapithecus* and *Ramapithecus* to extinct orangutan relatives. Prehistoric orangutan remains, mainly teeth, have been found from South China, Thailand, and Vietnam to Java. While orangutans exist today only on Sumatra and Borneo, they may have co-existed with archaic humans (*Homo erectus*) in Asia for over a million years.

The orangutan group lost ground during the Pleistocene ice ages, retrenching in warm rainforests on the Asian periphery where food sources were reliable year-round and mainland predators were less numerous – on the nascent islands to the southeast. Their Borneo rainforest habitat, for instance, has existed since long before the Pleistocene (Bellwood, 1997). However, their northern Sumatra habitat experienced four massive volcanic eruptions and ash deposits during the Pleistocene, the largest one at 74,000 years ago; few primates in the area would have survived these catastrophes (Muir *et al.*, 2000).

DNA studies provide time estimates for orangutan prehistory. One estimate is that Sumatra and Borneo orangutans diverged 2.3 million years ago (MYA), long before the islands separated for the “last” time some 14,000 years ago (Zhang *et al.*, 2001). Another study put the divergence of Sumatra and Borneo orangutans about 1.1 MYA (Warren *et al.*, 2001), when archaic humans were already on Java, but long before the rise of modern humans about 150,000 years ago. Warren and co-workers found that Sumatra orangutans have an older lineage than the Borneo populations, suggesting that Borneo orangutans originated from Sumatra. Moreover, they consider that four “distinct” Borneo populations of orangutans diverged 860,000 years ago, during the middle Pleistocene when Borneo was attached to Sumatra and the mainland (Bellwood, 1997). If true, orangutans were even then branching out into environmental patches that fostered survival and genetic diversity.

The area of the Sunda Shelf, roughly from Vietnam to Bali, had alternating cooler and warmer climates during the Pleistocene. During the cooler phases, when the sea retreated, the upland ecosystems varied from open savannah to closed forest depending on the wind and weather. When the Sunda Shelf was at its full extent during the last glacial maximum (LGM) about 18,000 years ago, areas on it varied in dryness. According to Meijsaard (2003), at the LGM the west coast lowlands of Malaya and Sumatra and the Borneo uplands had closed rainforests, while the east coast of Malaya and the north coast of Borneo near Niah had open, drier forests. For Niah, this confirms earlier findings (Bellwood, 1997). Other areas may have