

FAUNAL AND CULTURAL CHANGES FROM PLEISTOCENE TO HOLOCENE IN VIETNAM

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Questions about faunal change and cultural development from Pleistocene to Holocene times in Vietnam, as well as elsewhere in Southeast Asia, have attracted the attention of many scholars. In the past Colani considered that the Hoabinh culture could be dated from "Upper Palaeolithic (Magdalenian) to early Neolithic-Bacson" (Colani 1927). Later, Solheim (1970) put forward other definitions for the Hoabinhian as a technocomplex lasting from 50,000 to about 5000 years ago. Gorman (1971) also wrote on this subject. These scholars considered that the Hoabinhian culture, or a Hoabinhian technocomplex, occupied the transitional period from the Pleistocene to the Holocene.

In defending a Paleolithic date for some Hoabinhian sites, these scholars explained that the modern unfossilized faunal remains at some sites meant that there was a continuity of species existing in relatively stable ecological settings from very ancient to recent times (Mansuy 1931). However, we can now see, after analysis of recently discovered archaeological and faunal materials, that there was change and development in fauna and culture during the transitional period from Pleistocene to Holocene in this region.

In recent years, a series of caves containing fossils in a yellow sediment of Upper Pleistocene date has been discovered in the mountains of northern Vietnam. Among these caves the most important are those of Hang Hum (Hoang Lien Son Province), Phai Ve and Keo Leng (Lang Son Province) and Lang Trang (Thanh Hoa Province). The faunal elements present in these caves are listed in Table 1. The fauna here are rather similar to Upper Pleistocene fauna in Yunnan in a "Pongo-Stegodon-Ailuropoda" pattern, but they differ from the faunal remains in Hoabinhian layers.

Up to now, nearly 120 localities of Hoabinhian culture have been found. Generally, the deposits in these sites consist of a dark gray soil which covers the layer of yellow sediment. This deposit contains an abundance of land snails of the species *Cyclophorus fulguratus*, *Cyclophorus siamensis*, and *Cyclophorus speciosus*. In addition, there are freshwater shellfish of the species *Antimelania siamensis*, *Antimelania swinhoei*, *Brotia costula*, *Brotia variabilis* Benson, and *Angulyagra* sp.

Pongidae	- <i>Sus cf. officinalis</i>
- <i>Pongo pygmaeus</i>	- <i>Sus</i> sp.
Hylobatidae	Cervidae
- <i>Hylobates cf. concolor</i>	- <i>Rusa unicolor</i>
Cercopithecoidea	- <i>Muntiacus muntjac</i>
- <i>Macaca cf. mulatta</i>	- <i>Muntiacus</i> sp.
- <i>Macaca cf. assamensis</i>	- <i>Cervus</i> sp.
- <i>Macaca</i> sp.	- <i>Elaphodus</i> sp.
- <i>Semnopithecus</i>	Bovidae
Hystriidae	- <i>Bubalus bubalis</i>
- <i>Hystrix subcristata</i>	- <i>Bibos gaurus</i> sp.
- <i>Hystrix</i> sp.	Caprinae gen and sp. indet.
- <i>Atherurus</i> sp.	Procyonidae
Rhizomyidae	- <i>Ailuropoda melanoleuca fovealis</i>
- <i>Rhizomys cf. troglodytes</i>	Ursidae
Muridae	- <i>Ursus thibetanus kokeni</i>
- <i>Rattus</i> sp.	Canidae
Elephantidae	- <i>Cuon javanicus antiquus</i>
- <i>Palaeoloxodon namadicus</i>	- <i>Cuon</i> sp.
- <i>Elephas cf. indicus</i>	- <i>Nyctereutes</i> sp.
Stegodontidae	Mustelidae
- <i>Stegodon orientalis</i>	- <i>Arctonyx collaris cf. rostratus</i>
Tapiridae	Viverridae
- <i>Megatapirus augustus</i>	- <i>Paradoxurus cf. hermaphroditus</i>
- <i>Tapirus indicus cf. intermedius</i>	- <i>Paguma larvata</i>
Rhinocerotidae	- <i>Viverra cf. zibetha</i>
- <i>Rhinoceros sinensis</i>	Felidae
- <i>Rhinoceros</i> sp.	- <i>Panthera pardus</i>
Suidae	- <i>Panthera tigris</i>
- <i>Sus scrofa</i>	- <i>Neofelis nebulosa cf. primigenia</i>
- <i>Sus cf. lydekkeri</i>	- <i>Felis</i> sp.

TABLE 1: FAUNAL ELEMENTS OF UPPER PLEISTOCENE DATE FROM VIETNAMESE CAVES

There is also a great number of animal bones and teeth present, most of them identifiable to modern species. These are not fossilized. Probably they are the bones of hunted animals that were brought to the caves by Hoabinhian people.

In comparing the fauna of the Upper Pleistocene with that of the Hoabinhian, one finds that the latter contains *Macaca*, *Hylobates*, *Hystrix*, *Rattus*, *Palaeoloxodon*, *Elephas*, *Rhinoceros*, *Sus scrofa*, *Cervus* sp., *Rusa unicolor*, *Muntiacus*, *Bubalus bubalis*, *Bibos gaurus*, *Ursus thibetanus*, *Arctonyx collaris*, *Paradoxurus*, and *Panthera tigris*. However,

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