

Tertiary mammal faunas from Thailand

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Abstrak (Abstract)

Intensive survey in continental basins of Thailand has led to the discovery and study of several Tertiary mammalian communities in southern and northern Thailand.

The Krabi Basin (South Thailand) has yielded three rich and diversified Paleogene mammalian faunas (Wai Lek, Bang Pu Dam, and Bang Mark) for which a late Eocene age (about 35 My) has been allocated on the basis of their mammal associations and stages of evolution. The Krabi community can be considered a reference community for Southeast Asia because the oldest representatives of several extant families of mammals (hippos, pigs, megabats, colugos, ruminants), and the first undoubtedly remains of anthropoid primates of Southeast Asia have been discovered there. This led to significantly modify several concepts on early mammalian evolution. The cenogram method (whose structure is related to the general environment of a faunal community) has been used in order to tentatively reconstruct the paleoenvironments of southern Thailand during the late Eocene, and this study suggests a forested habitat submitted to an alternance of dry and rainy seasons with quite high temperatures (tropical climate). According to the mammal fossil record, intercontinental exchanges were likely during the Eocene between South Asia and Europe, North Africa and even North America.

The northern part of Thailand has so far yielded seven distinct fossiliferous localities of middle Miocene age distributed within five basins. These communities include small to large mammals. All these localities take place in a time span ranging from about 16 to 14 My, and a diachronism has been pointed out among these localities. Mae Long (Li Basin) would be the oldest locality (about 16 My) followed by Had Pu Dai (Lampang Basin), and then Huai Siew and Ban San Klang (both in Pong Basin). Ban Na Sai (Li Basin) and Mae Teep might be contemporaneous with Ban San Klang, and Mae Moh is considered the youngest locality. Paleoenvironmental study suggests that middle Miocene mammalian faunas of northern Thailand seem to have inhabited a quite open environment, with small areas of forests likely intermixed with grasslands, and submitted to a likely monsoonal climate, cooler than that characterized the Eocene.

Mammalian faunas of Southeast Asia are therefore valuable and precise biostratigraphic tools that allow to accurately date Tertiary basins. They also represent a reference for the better understanding of early mammal evolution. Additional prospection and fossil collecting are therefore obviously needed in order to improve the knowledge of paleoenvironment evolution and the Tertiary chronological scales in Asia.