

New Tetraconodontinae (Suidae) from the latest Middle Miocene in the Chiang Muan Formation, the northern Thailand

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The Chiang Muan Mine is one of the most famous fossil sites in the Thailand because of the discovery of the earliest large-bodied Miocene hominoid in Southeast Asia (Kunimatsu 2002; Chaimanee et al. 2003; Kunimatsu et al. 2004). The Chiang Muan Mine is composed of the Chiang Muan Formation. Due to the lack of igneous rock layers, the age of the Chiang Muan Fm. had been controversial until the magnetostratigraphic analyses by Nagaoka et al (2002) and Suganuma et al. (2006), and the biostratigraphic comparisons by Nakaya et al (2002) and Pickford et al. (2004). Most of these studies have been derived from work of Thai-Japanese Paleontological Expedition Team (TJPET) and have revealed that the Chiang Muan Fm. belonged to the late Middle to early Late Miocene (9.8-13Ma). The Chiang Muan Fm. consists of five distinctive members from the base to top (Fukuchi et al., 2007). Among them, the Sa Tai Lignite Mem. and Kon Lignite Mem. are known as fossil-bearing layers and contain numerous vertebrate fossils: hominoids, proboscideans, rhinocerotids, suids, tragulids, cervids, bovids, avians, reptilians, and osteichthyan (Nakaya et al., 2002). Pickford et al. (2004) reports four suoid species found in the Chiang Muan Fm. up to the present. Two of them are Tetraconodontinae: *Parachleuastochoerus sinensis* and *Conohyus sindiensis*. Another is, *Hippopotamodon* cf. *hyotherioides*, which is classified into Suinae, and the other is *Pecarichoerus sminthos*, belongs to Tayassuidae.

The TJPET had conducted an intensive geological and paleontological investigation in the Chiang Muan Mine composed of the Chiang Muan Fm. and had excavated several suid fossils, and new fossil suid materials, CMu 050625-01, were found in 2005 (Fukuchi et al., 2006). This fossil consists of one individual, although it is not a complete skeleton. The materials contain fragments of a cranium with several isolated upper teeth (incisors, premolars, and molars), mandible with incisors and p2-m3, humeri, radius, metacarpals, carpals, femur, patellae, tibia, fibula, metatarsals, tarsals, pharanges, fragments of vertebrae, and bones assumed to be ribs. The fossil preserves morphologically characteristic structures in its lower teeth and mandible which classify itself into Subfamily Tetraconodontinae. Also, another set of lower teeth of a suid fossil from Chiang Muan Fm., CMu 201, shares the same morphological characteristics with CMu 050625-01, so presumably they are the same species. Those distinctive characters of CMu 050625-01 and CMu 201 were analyzed based on diagnoses of Pickford (1988) and Made (1999), and it was revealed that those suids were close to *Conohyus sindiensis*, but characters of their lower p4 were quite different from those of *C. sindiensis*. Consequently, they were identified as *Conohyus* cf. *sindiensis*.

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