

W4 - FOSSIL RECORD IN TARU TAO ISLAND AND COASTAL AREAS, SATUN PROVINCE, SOUTHERN THAILAND

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Taru Tao Island and coastal areas (Thung Wa and La Ngu districts) Satun Province, in southern Thailand have extensive outcrops of Paleozoic marine karst. Over 35 taxa of Paleozoic fauna have been recorded including the stromatolites (late Ordovician to middle Devonian age), 9 species of trilobites (late Permian age), 13 species of brachiopods (Ordovician to early Devonian age), 6 species of graptolites (late Ordovician to early Silurian age), 5 genera of nautiloids (Ordovician to late Permian age), ammonoids (Carboniferous age), algae, fusulinids, and crinoids (Ordovician to Permian age). In limestone caves, several mammalian fossils of the Cenozoic were recovered at Wang Kluay cave, consisting of 2 genera of the proboscideans, *Stegodon* (first record in Malay Peninsula) and *Elephas*, 2 genera of rhinoceros *Gaindatherium* and *Rhinoceros*, including bovid, and cervid. The abundance of fossil assemblages of both Paleozoic and Cenozoic eras, along with of archeological sites, and tourism attraction, demonstrate the potential to be Geopark or important geological area.

W9 - EVOLUTION OF PAIRED FINS AND THE LATERAL SOMITIC FRONTIER

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Recent research on the evolutionary origins of the paired fins (pectoral and pelvic, evolving into the four tetrapod limbs) has focused on genetic, developmental, and fossil evidence. However, a combined synthesis of this evidence has largely been lacking. In living animals, identification of dorsal and ventrolateral zones of fin-producing competence, the distinction between primaxial and abaxial regions separated by the lateral somitic frontier, and the recognition that fin developmental mechanisms could have been co-opted from unpaired to paired fins can be used to evaluate vertebrate fin evolution, including fossil forms. These fossil taxa dominate early vertebrate history and possess an unusually wide variety of fin or fin-like structures; establishing homologies with the paired fins of jawed vertebrates has been challenging, in part owing to the absence of supporting girdles in most jawless vertebrates. An evolutionary scenario is proposed where these fin-like structures develop from somites, in the same manner as dorsal, unpaired fins. Girdles and the paired fins of osteostracans and jawed vertebrates develop from lateral plate mesoderm when the lateral somitic frontier and the abaxial region of the body evolve.