

Ping River Palaeochannels: A Review of Evidence across Historical Literature, Archaeology and Geoscience

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ABSTRACT

There is evidence that the Ping River in the Chiang Mai Basin, Thailand, has experienced multiple avulsions in the past. However, the history and the development of these avulsions remain largely unclear. Such knowledge, vital for river and disaster management, is important because a future avulsion would be catastrophic for the local population. This paper summarises, updates and reviews evidence of Ping River palaeochannels/avulsions across currently published historical literature, archaeology and geoscience. The author's own preliminary observations and findings from the present landscape are also shared. Through this review, it is learnt that there are at least six palaeochannels in the Chiang Mai Basin, that a large flood had triggered at least one avulsion, and that human influence must be considered when interpreting the avulsion record. However, there are still significant uncertainties and knowledge gaps due to 1) intense basin surface modification, 2) unknown palaeochannel ages, and 3) uncertain avulsion mechanisms for all palaeochannels. Such information needs to be resolved in future research.

Keywords: Palaeochannels, Avulsions, History, Ping River, Flood, Literature, Archaeology, Sedimentology