Amornchai Lothongkham 2008: Species Diversity of Fishes in the Nan River Basin (the Chao Phraya River System) in Nan Province, Northern Thailand. Master of Science (Fisheries Science), Major Field: Fisheries Science, Department of Fishery Biology. Thesis Advisor: Assistant Professor Prachya Musikasinthorn, Ph.D. 250 pages.

A survey of fish fauna in the Nan River basin in Nan Province (the upper Nan River basin) of the Chao Phraya River system was conducted from March 2003 to July 2004. As a result, 10 orders, 28 families, 76 genera, 108 species of fishes were collected. The most dominant order is Cypriniformes (62 species[56%]), followed by Siluriformes (17 species [16%]) and Perciformes (14 species [13%]). The most dominant family is Cyprinidae (41 species[37%]), followed by Balitoridae (17 species [16%]) and Cobitidae (8 species [11%]). Only one species, *Hemimyzon nanensis*, was recognized as an endemic species to the basin. Six species, *Devario laoensis*, *Onychostoma gerlachi*, *Poropuntius angustus*, *Sectoria heterognathos*, *Oreoglanis setiger* and *Tetraodon turgidus,* were collected for the first time from the Chao Phraya River basin. Seven alien species, *Clarias gariepinus*, *Pterygoplichthys pardalis*, *Gambusia affinis*, *Poecillia reticulate*, *Oreochromis niloticus*, *Oreochromis* sp.(hybrid) and *Channa micropeltes* were collected.

Distributional patterns of fishes in the basin in a southeast Asian region can be divided in to 5 diferent types. The most zoogeographically interesting type is type "B" which was distributed only in the upper Nan basin and the middle Mekong River basin (5 species: *Devario laoensis*, *Poropuntius angustus*, *Sectoria heterognathos*, *Oreoglanis setiger* and *Tetraodon turgidus*). Additionally, cluster analysis by using UPGMA and Nearest Neighbor methods based on Jaccard's Coefficient of Community Index was conducted for comparison of fish species compositions between the upper Nan basin and other principal river basins in Indochinese Peninsula. A result showed that the upper Nan basin is most closely related to that of the Ping and Yom Rivers. From comparisons of fish species which were shared between 3 rivers (the Ping, Yom and Nan Rivers) composing the upper Chao Phraya basin to surrounding principal rivers (the Salween and middle Mekong Rivers) in Indochina showed that the Nan and also Ping rivers independently shared several (5 and 6, respectively) species of fishes only with the middle Mekong basin. This result indicates drainage connections of the Nan and Ping River basins with the middle Mekong basin by phenomena such as river[stream]capture events in the part.

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