

# Ecological and sociological impact of three alien Cichlidae fish in lower Chao Phraya river basin, Thailand

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In recent years, many alien fish species have been introduced to Southeast Asia, some of which have become established and are flourishing in watershed areas that are now considered hotspots of rich biodiversity. While this could potentially have negative effects on the native ecosystems, it could also have some positive effects for humanity, serving as a food resource and a supply of ornamental fish. So, in near future, it is necessary to conduct conservation activities to decrease alien species' impacts on the areas in which they have been introduced, followed by the acquisition of accurate and essential information regarding these alien fish.

The objective of this study is to clarify the ecological niche of three Cichlidae fish and to examine how these alien fish are utilized by residents as well as how the species' introduction has changed the human lives in the area.

The main activities for this study were the preparation of a questionnaire and selection of a method for sampling participants for sociological research living in areas in which we had previously conducted biological investigations (e.g., collecting local organisms).

In particular, I revised a previous questionnaire in an effort to sort out some lingering issues. Targets of this questionnaire were residents living in traditional housing along a canal. In order to achieve satisfied outcomes that would ensure the effectiveness of the questionnaire, an interview survey was also conducted, from



Pic.1 Traditional fishing gear



Pic.2 Sun-dried fish

which we received a lot of useful information. For example, I observed traditional fishing gear of residents and cooking methods for preparing alien fish (Pic. 1, 2). Overall, I was most surprised by the level of penetration of *Cichlasoma urophthalmus* in the locals' dietary culture (Pic. 3). They were introduced to Thailand as ornamental fish species approximately 5 to 7 years ago, meaning that they are comparatively new alien fish in Thailand, whereas *Oreochromis niloticus* and *O. mossambicus* have a long history in Thailand, acquiring local names and being eaten regularly by residents. According to our interview survey, the local name for *C. urophthalmus* is "Nin Chan," where "Nin" means *O. niloticus* and "Chan" means "spot." Perhaps the reason why they are called Nin Chan is that their shape is so similar to *O. niloticus* and they have big black spot on their pre-caudal area. In summary, there is some possibility that *C. urophthalmus* will become one of the main aquatic



Pic.3 *Cichlasoma urophthalmus*

resources, similar to *O. niloticus*.