

## Indigenous species for aquaculture development in Ghana

In Ghana the Nile Tilapia and Clarias are the main farmed fish, although there are several freshwater species that are highly valued for their flesh quality and exploited from the wild. One of the main actions that could be taken to enhance consumption popularity and biodiversity conservation of such species is to bring such species into production in captivity: aquaculture.

### Potential Indigenous Species

#### ***Chrysichthys nigrodigitatus***

One indigenous species that is well known and hold potential for fish farming is *Chrysichthys nigrodigitatus*, in the Bagridae family.



Courtesy of Nelson Agbo

*Chrysichthys* is quite well known among fish farmers in Ghana but few deliberately produce them in their ponds. The species frequently invade fish farms from neighboring water bodies. Recent studies on growth performance of the fish by KNUST, Ghana and Virginia Tech, USA have

shown that they grow fast in earthen ponds with even minimal feeding, and almost doubling their weight every month. The optimal feed for juveniles of this fish has about 35-40% protein. The flesh quality is well appreciated by consumers and may be dried smoked or fresh but most people prefer it smoked. *Chrysichthys* is definitely an economic species that can be produced on a commercial scale without much difficulty as it accepts formulated fish feeds.

#### ***Heterotis niloticus***

Another species that is worth considering for production in captivity is *Heterotis niloticus* (family Osteoglossidae). The species is an opportunistic omnivore and consumes a variety of food resources, ranging from aquatic invertebrates to small seeds, including small benthic organisms, fishes, shrimps, plant remains and terrestrial insects.



Courtesy of Nelson Agbo

Remarkable growth performances have been reported in captivity with individual mean body mass reaching up to 3 to 4 kg in 12 months. Formulated juvenile diets require 30-35% protein.



Courtesy of Peter Akpaglo

In captivity, the species makes its nest in vegetated areas of the pond. Additional knowledge on ecological, behavioral and nutritional factors at early growth stages is required for commercial production of the species. One major problem with the species is the absence of distinct external features to distinguish between males and females. The prospect for *Heterotis* contribution to Ghanaian aquaculture will depend largely on resolution of problems associated with early growth and development and sexing.

#### ***Parachanna obscura***

*Parachanna obscura* (family Channidae) is a commercially important fish species belonging to the family Channidae and with a wide distribution in rivers, lakes, marshy habitats and bank vegetation. They occur in almost all river basins in Ghana. In flowing waters they tend to inhabit calm areas and avoid swift currents. Capture of the species in open waters is difficult so most

fishermen result to using traps or hooks. Culture of the species is not developed in Ghana. Fish farmers mostly keep them in their ponds without feeding them. People who are familiar with the species consider it ancient and relish the flesh. In Ghana, *Parachanna* is marketed mostly smoked but sometimes dried. Due to its good taste, most fishermen and market women consume with their households the few they obtain; hence the species is not commonly encountered on the market.



Courtesy of Gifty Anane-Taabeah

Information on food and feeding habits of *P. obscura* is rather scanty. Seasonal changes in food and diet are common. The larval fish feed on protozoa and algae, while early fry feeds on plankton and crustaceans. Adults tend to prey on other fishes, while juveniles feed on prawns, copepods, and aquatic insect larvae. It can easily devour a fish half of its length and it swallows its prey whole.



Courtesy of Gifty Anane-Taabeah



Courtesy of Mark Yeboah- Agyepong

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## Acknowledgements

**Aqua Fish CRSP, Oregon, USA  
Virginia Polytechnic Institute and State University  
(Virginia Tech), USA  
USAID and KNUST**



**USAID**  
FROM THE AMERICAN PEOPLE

**AQUA FISH**  
COLLABORATIVE RESEARCH  
SUPPORT PROGRAM



*Indigenous species  
for aquaculture  
development in  
Ghana*



Courtesy of Steve Amisah

The AquaFish Innovation Lab is supported in part by United States Agency for International Development (USAID) Cooperative Agreement No. EPP-A-00-06-00012-00 and by contributions from participating institutions.

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