

No. III. African Lungfish.

Because certain Siamese fish, Pla ma (*Anabas* sp.) and Pla chon (*Ophicephalus* sp.), bury themselves in the mud of shallow klongs or pools at times when the water disappears, it is thought that a few notes regarding the so-called African lungfish may be of interest. These notes are made possible by the courtesy of the General Biological Supply House of Chicago, a firm that imports from Africa living and preserved specimens of the fish for laboratories. These African fish, which bury themselves in the mud of lakes during the dry season, and which may attain a length of six feet, belong to the genus *Protopterus* which has at least three species; the *aethiopicus* is the one referred to here.

When these fish embed themselves in mud for their inactive period, each forms around itself a protecting capsule or cocoon of mucus that it secretes, this substance hardening into a resistant membrane. Specimens are shipped from Africa by placing the dried mud containing a cocoon in an unsealed tin can. In this they remain some six months during transit.

Removal of a fish after arrival is not quite so simple. The metal container is carefully cut away in segments in order not to crack the mud and thus injure the occupant. The dried mud is then soaked in a tank of warm water and gently washed away until the mucoid cocoon is exposed. This is a very tough membrane and requires considerable soaking and softening before it can be opened without damage to the enclosed fish. As the cocoon softens the fish shows signs of life and some gasp loudly when the cocoon is broken.

Finally, when the fish has been removed from its covering and washed free of membrane, fragments of which often adhere, it is quite active. It is then placed in an aquarium and soon is ready to take food after its six months' hibernation. Only one is put in each container because if two or more are placed together they attack and kill each other, a trait suggestive of our local fighting fish. The aquarium need not be balanced but can contain merely sand and water, as the fish repeatedly comes to the surface for air and then lies on the bottom or burrows into the sand. If an aquarium be entirely filled with water and left uncovered, the fish usually works itself over the top. One that had done this was later found upon the laboratory floor entirely dry but revived when returned to the aquarium. These tropical fish cannot stand cold and must be kept in water of 90 to 95 degrees Fahrenheit.

Because of rather heavy mortality among these fish during shipment, prices for living specimens are high. Fish from 10 to 12 inches long are listed at \$25, those above 12 inches at \$30 gold each (Baht 55 to 66).

A. G. ELLIS.