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WALKING CATFISH (*CLARIAS BATRACHUS*)

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Abstract

Freshwater air breathing catfish endemic to Southeast Asia include the walking catfish (*Clarias batrachus*). Walking and wriggling on dry land is what gives it its name; it uses this capacity to obtain food and suitable habitats. In spite of the fact that it lacks the capacity to walk like other bipeds or quadrupeds, it uses its pectoral fins to hold itself upright while it wiggles its way across the earth. There are a variety of places where this fish could be found including slow-moving or stagnant areas such as rice fields or temporary pools that may or may not be filled with water in the near future. A "walking" ability enables the fish to relocate to new aquatic areas when this happens. This species is the subject of considerable taxonomic consternation, and it has frequently been mistaken for other closely related species. In comparison to the native North American ictalurid catfish with which it is sometimes mistaken, the walking catfish does not have an adipose fin.

Keywords : *Clarias batrachus*, taxonomy, carnivorous, environment.

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Introduction

With an elongated appearance and a weight of 1.2 kilogrammes (2.6 pounds), the walking catfish is one of the largest freshwater fish in the world. The majority of the body is grey or greyish brown, with a few white spots on the sides. Dorsal and anal fins are long-based, and there are multiple pairs of sensory barbels on this catfish. Scaleless, yet mucuscovered, the fish's skin protects it when it's out of the ocean. Because of the sting or thorn-like defence mechanism embedded behind its fins, this fish must be handled with care when being fished (including the middle ones before the tail fin, similar to the majority of all catfishes). Tropical fish endemic to Southeast Asia include the wandering catfish. Only the Indonesian island of Java has been proven as the native range of the real *Clarias batrachus*, however three principal and more widely distributed species have frequently been mistaken with this one. Among these are *C. magur*, found in northeast India and Bangladesh, as well as an undescribed species from Indochina, the Thai-Malay Peninsula, Sumatra, and Borneo, all of which are believed to be *C. magur*. It has been referred to as *Clarias batrachus* aff. batrachus for both of these unknown species. The taxonomic status of the Philippines population (known locally as hito or "catfish") and the South Indian populations (known locally as *C. magur*) is currently unknown. *C. batrachus* may have been mistaken for a closely similar species because of this. As a result, most of the information mentioned for *C. batrachus* (behavioural, ecological, and linked to introduced populations) may be incorrect. In aquaculture, *C. batrachus*, *C. magur* and the two possible unidentified species are all raised in captivity Walking catfish are common in muddy ponds, canals, ditches, and other similar environments because they thrive in hypoxic, stagnant water. The species prefers to spend the most of its life at or near the bottom of the ocean, only venturing to the top to breathe fresh air. These fish are omnivorous in the wild, eating everything from smaller fish and mollusks to trash. Invasive populations of this voracious eater are thought to be dangerous.

Because it is a non-native species

This species has been widely dispersed throughout Asia. As a result, it is considered an invasive species outside of its natural area. In order to survive, it feeds on local fish and their young. The fact that they can destroy fish farms further solidifies their status as an invasive species. Currently, it is based out of the state of Florida. California, Connecticut, Georgia, Massachusetts, and Nevada are among the states where it has been documented. In the early 1960s, the walking catfish was brought to Florida from Thailand for aquaculture purposes. Fish brought as brood stock from northern Broward County or from a truck hauling brood fish between Dade and Broward counties escaped in the mid-1960s, it appears to have been the first introduction of adult fish. After Florida outlawed the importation and possession of walking catfish in late 1967 or early 1968, fish growers in the Tampa Bay area, Hillsborough County, made additional introductions, reportedly planned releases. The introduction of new species to other states is most likely due to aquarium releases. Dill and Cordone (1997) noted that tropical fish vendors in California had been selling this species for some time. The Midwest has seen them on occasion as well. Walking catfish have been seen in aquaculture ponds in Florida, where they feast on farm fish. Fishermen have been forced to put fences around their ponds as a result. Walking catfish have also been banned from being owned by anyone. River Tonge near Bolton in northern England was the site of a *Clarias* spp. discovery in 2017. It is known as pla duk dan in Thailand. Common and affordable, it may be served in a number of ways and has many uses. Street vendors frequently provide it, particularly grilled or fried. Hito is the native name for this fish, which is one of the most frequent in the Philippines' freshwaters. Indonesians name it lele and use it in a variety of recipes, including pecel lele, which is a

popular street food. *C. batrachus* is not consumed in West Bengal, but *C. magur* is, and it is regarded as an excellent remedy for physical weakness in the event of disease. It's made with cinnamon and coriander powder in a mild curry sauce. It is said to be given to youngsters as a way to build muscle mass. *C. magur* is referred to as "murgodu" in Karnataka. It is known as mugudu in coastal Karnataka and is regarded as a delicacy. Not one p is found in Thailand or India. Aquarium fish typically come in a white variant with black markings. In places where walking catfish aren't allowed, this colour variant is likewise illegal. These fish should be housed in an aquarium with deep-rooted plants and huge, shady structures. This fish will consume any smaller fish in the aquarium. However, *C. batrachus* populations are most likely to be found.

Systematic position

Phylum	:	Chordata
Class	:	Actinopterygii (Ray-finned fishes)
Order	:	Siluriformes (Catfishes)
Superfamily	:	Siluroidea
Family	:	Clariidae (Airbreathing catfishes)
Genus	:	*Clarias*
Species	:	*C. batrachus*

Synonyms

Clarias assamensis Day, 1877

Clarias punctatus Valenciennes, 1840

Silurus batrachus Linneaeus, 1758

Morphology

The body grows longer. Osseous plates cover the top of the head, which is somewhat flattened. In addition to the four pairs of barbels that reach to the middle or end of the pectoral fins, the maxillary barbels are shorter than those of the mandibular pairs. Inserted somewhat ahead of the pectoral fins, the dorsal fin. Serrated margins on both sides of the pectoral spine make it sturdy. The hue of the skin ranges from brown to green-blue. Having a greenish lustre to the backside. There are remarkable patches of light to white coloration on the sides and belly of this bird. The edges of the dorsal anal fins are crimson.

Fin formula

D. 69; P. I/9; V. 6; A. 52; C. 16 (Bhuiyan, 1964)

D. 64-70; P1. 1/9-10; P2. 6. A. 45-52 (Rahman, 1989 and 2005)

D 70-76; A 45-58; P I 8-11; V i 5 (Talwar and Jhingran, 1991)

D. 62-76; P. 1-9; V. 6; A. 45-50; . 16 (Shafi and Quddus, 2001)

Consuming and nourishing oneself

Fingerlings and adults eat insects, crustaceans, worms, tiny fish, decomposing organic stuff, and more as they grow up (Yadav, 1999). At the bottom of the water column, it eats algae and higher plants (Shammi and Bhatnagar, 2002). Rice and wheat brans are also acceptable (Siddiqui and Choudhury, 1996).

Relatively unobtrusive breathing

The aborescent organ and air fan are two frequent names for this tree-like auxiliary respiratory organ (Bhuiyan, 1964). (Hasan and Mohsin, 2011). The makeup of one's body. 32 grammes of protein; 2.0 grammes fat; 0.07 grammes iron; 173 milligrammes of calcium; and 66.3 milligrammes of water are found in 100 grammes of meat (Siddiqui and Choudhury, 1996).

Spawning

Summer monsoons in the southwest coincide with this species' brief spawning season, which lasts just from July to August (Talwar and Jhingran, 1991). At the conclusion of the first year of its existence, at a length of 20 cm, it reaches full maturity (Siddiqui and Choudhury, 1996). For spawning, they prefer swamped paddy fields and similar bodies of water. It may also be found in tanks and ponds. Prior to breeding, builds a nest (Shafi and Quddus, 2001). It has a fecundity of 1477 (31 cm, 235 grammes) and 6520 (20.5 cm, 90 grammes) eggs (Shafi and Quddus, 2001). The great nutritional content and high market price of this catfish make it an excellent investment. Production of this species is likewise significant, with a farm pond of 0.1 hectare producing 5043 kg/ha (Talwar and Jhingran, 1991). Physicians often prescribe it to convalescents because of its exquisite flavour and nutritional characteristics. Rich folks choose this option (Siddiqui and Choudhury, 1996). Persuaded to submit to the merciless grasp of the harpoonist or the rod-and-reel enthusiast (Bhuiyan, 1964). Mosquito larvae can be eliminated from drains with this product (Shafi and Quddus, 2001). Only alive fish are in high demand, but dead fish have little monetary worth (Siddiqui and Choudhury, 1996). There is no fish that can escape the hungry jaws of the *C. batrachus*. It may be housed alongside other species of comparable size and vigour, such as giant barbs, Loricariids, and cichlids, in a community aquarium setting. The Clarias' incredible development rate necessitates the introduction of any tankmates at a bigger size than the Clarias. Definitely not a fish for the general public. Many fish farms across the globe have done this, although it is less common in aquariums. Even in a small aquarium, it's feasible to grow plants. At roughly 12 inches (30 centimetres), the fish appear to be sexually mature. If a sexed couple isn't available, starting with a small group of juvenile fish can be a good idea. The other Clarias and any other tankmates should be removed after a couple has formed. Chemical and temperature parameters are not crucial, but they must be in line with the guidelines outlined in this article. The pair's body contact intensifies just before spawning, and it is possible to see them swimming side by side. Unlike in nature, where fish reproduce in caves carved into the banks of rivers, fish in an aquarium will instead dig a hole in the substrate and lay their eggs there. For as long as 20 hours, the pair will reappear over the spawning location, which is where they first met. Thousands of eggs may be deposited by a big couple, and they sink to the bottom of the water and adhere to the substrate. It is the male's job to defend his young after spawning, swimming endlessly above the nest to keep an eye out for predators. It's also possible that the constant movement of his limbs aids in egg development. Within 24 to 36 hours following laying eggs, the female returns to the brood and assumes responsibility for the protection of the territory's border. The male bird is still in the nest. For the next 48 hours or so, the adults' interest in the fry fades. After 72 hours, the children are able to swim on their own. If you plan to raise a large number of fry, you should use a syphon to remove them from the tank. Initially, they can be fed brine

shrimp nauplii, but they develop quickly and are able to accept larger diets very quickly.

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