Catfish *Clarias* is vanishing from the waters of Kerala

The air-breathing freshwater fish *Clarias* is represented by three species in the aquatic ecosystems of Kerala: *Clarias batrachus* Hamilton (the walking catfish), *Clarias dayi* Hora (Malabar catfish) and *Clarias dussumieri* Valenciennes (Valenciennes clariid). Compared to *C. dayi*, which inhabits the waters of the Wyanad hills[1], *C. dussumieri* and *C. batrachus* are common in water bodies ranging from shallow channels to large ponds and rivers. Moreover, *C. batrachus* is a major species in the paddy-field fishery of Kerala. However, the populations of these species are declining sharply in Kerala and *Clarias* has became rare now.

The fishermen of Kerala reveal that they were earlier catching about 20–25 *Clarias* fishes each year, but that number has reduced to one or two during the last five years. The seriousness of the situation is also clearly demonstrated by Subhash Babu *et al.*[2] in Muriyad wetland, a part of Vembanad-Kol, a Ramsar site, where they could not collect even a single *Clarias* after analysing 1215 ha of wetland for one year.

During the monsoon breeding period, many of the freshwater fishes, especially the air-gulping species, swarm and migrate from permanent water bodies to flooded areas. This phenomenon which takes place during the initial phase of monsoon, called 'ootha' or 'oothal' in Malayalam, is a time of bumper fish harvest. The *Clarias*, which usually migrate in a long queue, is rare nowadays.

Clarias batrachus

Similar to other endangered and vulnerable aquatic species, the major causes of population reduction of *Clarias* could be the overexploitation, reduction in the habitat area due to the reclamation of wetlands, and the extensive use of pesticides, weedicides and fertilizers in the agriculture fields[3]. According to Vidthayanon[4], highly competent *Clarias gariepinus* (African sharp tooth catfish) is replacing other species of *Clarias* in the freshwater aquatic habitats of Thailand. Nowadays, *C. gariepinus* is cultured extensively in Kerala and appearing frequently in many natural water bodies of the state. Moreover, the young ones of this voracious feeder are available in aquarium shops for a small price, which also threatens the future of indigenous *Clarias* species.

Though *C. dussumieri* and *C. dayi* are being considered as endangered species[1,3], a few ichthyologists in Kerala are concentrating on the conservational aspects of these fishes[3]. Moreover, the IUCN status is also not available for this species. Why *C. batrachus*, the fish equipped with accessory respiratory organs to live in hypoxic water and enjoying the status of a harmful invasive pest in the aquaculture pods of USA[5], is disappearing from the water bodies of Kerala needs immediate attention of conservation biologists. Therefore, more studies are essential to verify the present distribution and steps to guarantee protection of their habitats. Population genetic studies coupled with captive breeding are also essential for successful translocation and reintroduction efforts. Otherwise, like many other extinct organisms, *Clarias* will also become a myth in Kerala.

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'Mauhak' – yet another mystery in the dictionary of bamboo flowering

Flowering in bamboos is considered as a great mystery in the scientific world. Many theories have been put forward to decipher this mystery, but it still remains unsolved. The value of bamboo can be realized from social, economic as well as an ecological point of view. It is closely associated with the lifestyle of people in Northeast (NE) India, rural Asia and other parts of the world[1–3]. The unwanted events of flowering in bamboos added to the woes of the rural population, particularly in NE India by depriving them of this resource and resulting in livelihood loss. Bamboo is also well known for its fast growth with rapid carbon sequestration, conservation of soil nutrients and as a live soil-binder[4–6]. The sudden decline in bamboo cover due to mass flowering may herald rapid accumulation of CO_2 – the major greenhouse gas in the atmosphere; otherwise several millions of tonnes of atmospheric carbon is sequestered by bamboos. On the other hand, many bamboo species of NE India which are in reproductive phase do not produce viable seeds, and hence may be on the verge of extinction[7,8].

Unlike other plants, bamboos flower at the end of a long vegetative phase. The

The fish is remarkable because it can survive without food and water for some reasonable length of time. It also has the ability to sting when manhandled or captured, which can be quite painful. The defense mechanism is hidden in the pectoral fins and cannot be seen until it appears (Scheng, 2010).Â Catfish Clarias is vanishing from the waters of Kerala. Curr. Sci., 99: 714-714. In Kerala, poor consumer preference for carps results in the culture of undesirable exotic species like African Catfish Clarias gariepinus (Burchell, 1822) and carnivorous Pacu Piaractus brachypomus (Cuvier, 1818), despite the ban imposed on its culture and their introduction to natural waters (Binoy 2010). The endemic Catfish Clarias dussumieri Valenciennes, 1840 is a candidate species that has high aquaculture potential, as it has been reported to grow to a maximum size of over 3kg in nature (Padmakumar et al. 2010). ...Â The peninsular Indian endemic Dussumierâ€™s Catfish Clarias dussumieri once abundant in the wetlands and other water bodies of Kerala is now in rapid decline. Catfish Clarias is vanishing from the waters of Kerala. Publication Type: Journal Articles. Authors: VV Binoy. Source: Current Science, Volume 90, p.714 (2010). The walking catfish (Clarias batrachus) is native to southeast Asia. Its native range includes Bangladesh, India, Indonesia, Malaysia, Myanmar, Pakistan, Singapore, Sri Lanka, Laos, and Thailand. However, the walking catfish has a large global distribution due to introductions. Its current range includes the United States, where it was first introduced to Florida from Thailand for cultivation purposes.Â While this species is found in a multitude of water conditions, it is abundant in swampy waters. Clarias batrachus can survive outside of the water and travel on land as long as its gills stay moist. It is most common to see C. batrachus outside of the water after heavy rains. (Allen, 2013; Froese and Luna, 2015). Habitat Regions. The walking catfish (Clarias batrachus) is a species of freshwater airbreathing catfish native to Southeast Asia. It is named for its ability to "walk" and wiggle across dry land, to find food or suitable environments. While truly, it does not walk as most bipeds or quadrupeds do, it has the ability to use its pectoral fins to keep it upright as it makes a wiggling motion with snakelike movements to traverse land. This fish normally lives in slow-moving and often stagnant waters in ponds, swamps...