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## **Natural treatment of mosquito and organic pollutants in shallow water & surroundings: A report**

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### **Abstract:**

Many fishes like guppies, bass, bluegill and catfish are known to eat mosquito larvae. In tropical countries these fishes can survive very well and can successfully reproduce with minimum care and expenditure. But no studies has yet been done on survival of these fishes in sewage water. Many studies have shown that wild species of guppies can even survive few weeks in extremely polluted water if there is proper aeration present. But it has also been shown that some wild catfish can also survive in polluted water. In India, major cities are always having several canals. Such canals are mostly of shallow water that often nest mosquitoes and other worms that are harmful for either human or environment. Those fishes can be kept in such canals to prevent various diseases.

**Keywords:** Malaria, Larvae eating fish, Natural control

### **Methods:**

**Guppies in canal water:** They are small fishes with exceptionally hard immunity. Specially for wild guppies, maintenance is very less and they can even survive in show running shallow water that most of the canals have. At the same time, they eat mosquito larvae and other pathogenic insects thus protecting our lives. Another interesting fact is that guppies can reproduce all over the year specially in tropical regions (warm climate) that is highly suitable for Indian scenario[1,2].

**Bass fishes** (also called Koduvai in some parts of India): They are comparatively large fish that feed on aquatic plants as well as various organic pollutants present in water. Mostly canals are used to pass on various pollutants from major cities. At this point, bass can reduce some amount of organic waste by feeding on them. On the other hand, bass is almost maintenance free hardy fish species that can easily survive even in comparatively shallow and dirty water in tropical region [3].

**Catfish:** They are found almost in every part of Indian water bodies. The infamous giant catfish of the river Kali (Nepal) is well known for its wide range of food habits that even includes animal body parts. But there are many other smaller species of catfishes available in India that can also be used to reduce the organic waste from water [2,3]. Specially they are highly efficient to reduce the organic pollutants from water. The only problem with them is that, they can increase their numbers and become competitor for the local fishes that are present. But fortunately, fishes used for human consumption are not present in polluted canals thus aggressive catfish can nest there unharmed [3,4].

#### **Mosquito eating plants:**

The Venus Fly Trap (a carnivorous plant native to the East Coast of the USA) can also be planted near mosquito prone areas to reduce mosquito population and it is equally effective to reduce house fly and other insects. This is almost maintenance free process except the initial cost.

The leaves of the plant are wide and flat, with sensitive ‘trigger hairs’ covering their insides. When an unsuspecting bug (attracted to the scent or color of the plant) lands on those leaves, they will stimulate the trigger hairs, causing the leaves to close around the insect and trap it inside. Pitcher Plant is also another example that catch mosquitoes and other fly. Apart from that,

the common Bladderwort plant is also an aquatic carnivorous plants found in lakes and streams all over the world. They can also be used to control various pests and bugs [5].

#### **Conclusion:**

In conventional process, mosquitoes and other insects are mostly controlled by various harmful pesticides. But this process can easily be paralleled with the help of various fishes and carnivorous plants which is unique and very effective. Moreover, this process is almost maintenance free and useful specially for developing countries like India. There is no possible side effects and it can also be utilized even in remote villages and highly polluted metropolitan cities.

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