

ROLE OF AMPHIBIANS IN BIOLOGICAL CONTROL OF INSECT PESTS

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DESCPIRITION

Amphibians are mostly habitat specific and are highly sensitive vertebrates. So, these are called indicator species of environment and also, they play an important role in ecological cycle of the agricultural fields because they feed on insects, including many pest species of agricultural crops.

Amphibians are belonging to the class Amphibia that are called herpetofauna of vertebrate. The term Amphibians is derived from Greek words “amphibious” for their dual life style (Amphi-dual; Bios-life). Amphibians are characterized by their ability to live both aquatic and terrestrial habitats. Some of the species are permanent as land dwellers, while some of other species have a completely aquatic mode of life. Amphibians are classified into three Orders namely; 1. Anura (Greek: An-absent, Oura-Tail) includes frogs and toads. 2. Caudata (Greek: Cauda-Tails) includes Newts and Salamanders and 3. Gymnophina (Greek: Gymno-Naked, Ophios-snake) includes Caecilians. All the amphibians of the above orders are closely dependent on water, especially for their breeding purpose. Anuran includes frogs and toads which are belonging to the genus Bufo are described as toads where as members of genus Rana are referred as frogs. In the order Caudata there are no clear distinctions between the two categories of Newts and Salamanders, both common names are often interchanged.

They are also important food sources for many larger animals such as water birds, mammals, reptiles, and even spiders and larger insects. The amphibian fauna is less explored as compared to other regions. The Cauvery belt regions has variety of crop pattern such as paddy, Cotton, sugar cane, maize, plantain, black gram, groundnut, etc. provides the ideal environment and habitats for the occurrence of amphibians. Apart from that there are natural and artificial wetlands such as ponds, pools, rivers tributaries of river Cauvery and few lakes. Such habitats are well attracted to amphibian species and may use of various purposes such as food, breeding and home ground etc. Changing of crop pattern, road kills, conversion of cultivable lands and urbanization are seriously affecting

the diversity of amphibian fauna directly and indirectly. The amphibians are playing an important role and act as an agent for biological control of insect pests at cultivable lands and controlling larvae during its tadpole stage.

Amphibians are important to understand the factors that control their diversity in the region. Amphibians play an important role in the ecosystem because they feed on insects, including many pest species of agricultural crops. They are also important food sources for many larger animals such as water birds, mammals, reptiles, and even spiders and larger insects. They often have the role of economical importance to humans as a food source and medical resource in some regions and as an important potential source of future pharmaceutical drugs.

Amphibians such as frogs and toads only target moving prey and prefer elongated prey such as crickets or insect larvae that move across their field of vision. However, many aquatic amphibians will target food by scent and will consume inert food. The amphibians are playing an important role of act as an agent for biological control of insect pests at cultivable lands and controlling larvae during its tadpole stage.

Amphibians are have two life stages namely tadpoles (occur in water) and adults (on land). It comprised of frogs, toads, caecilians and salamanders those are extremely varied in shape and size. The amphibian fauna of the Cauvery delta region is less explored as compared to other regions like the Western Ghats range. The Cauvery belt regions has variety of crop pattern such as paddy, Cotton, sugar cane, maize, plantain, black gram, groundnut, etc. provides the ideal environment and habitats for the occurrence of amphibians. Apart from that there are natural and artificial wetlands such as ponds, pools, rivers tributaries of Cauvery and few lakes. Such habitats are well attracted to amphibian species and may use of various purposes such as food, breeding and home ground etc. Changing of crop pattern, road kills, conversion of cultivable lands and urbanization are seriously affecting the diversity of amphibian fauna directly and indirectly.

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