



**Medicinally Important Leeches Of Melghat Region: And Their Role
In Medical Therapeutics**

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Abstract:

The aim of this study was to reveal diversity patterns of medicinally important leech communities. In this investigation 32 free living as well as parasitic species were examined. Most of the specimens were collected from the river at Seemadaha of Melghat region. The communities were analyzed with respect to their medicinal and therapeutic properties. Medicinal leeches contains more than 100 bioactive substances include vasodilator, analgesic, anti-inflammatory, bacteriostatic anticoagulants, anti-edematous, which eliminate microcirculatory disorders, restore the damaged vascular permeability of tissues and organs, eliminate hypoxia, reduce blood pressure, increase immune system activity, resolving the cause of pain and improve the bioenergetics status of the organism.

The study highlights morphology of medicinally important species collected from the river at Seemadaha, Melghat area. The uniform pattern in citation and arrangement of segment was observed. Silent features, Diagnostic characters were examined from the key of identification of genera and species. Out of total samples collected, 2 leech species were identified which are medicinally important, mainly these leeches belongs to *Hirudidae* family and genus *Poecilobdella Blanchard* and *Asiaticobdella birmanica*.

Keywords: Medicinal leeches, Hirudotherapy, Bloodletting, venous congestion

Introduction

Leeches (Hirudinea) are predatory parasitic annelids with terminal suckers serving in attachment, locomotion and feeding. They are closely related to the oligochaeta and reasonable the epizoic Branchiobdellidae in possession of suckers, median orifice and analogous jaws in the absence of setae (Moore, 1958). They are recognized as a very important macro invertebrate group of versatile habits and habitats. India is one among the 12 mega biodiversity countries of the world. biological diversity reveals that Leech (Hirudinea) fauna of the world accounts to 680 species, of these 482 species are freshwater, 102 marine and remaining 92 species are terrestrial (Moore, 1958). Uptill now Leech fauna is represented by 64 species from Indian region (ZSI). A small number of sanguivorous species known as "medicinal leeches" have played an important role in traditional and modern medicine. Blood leeching is an ancient method of bloodletting which has been used extensively in treatment of various disorders since centuries in the natural medicine. The substance extracted from the saliva of leech is power anticoagulant. Fritz Marquardt of Germany isolated a protein from *Hirudomedicinalis* that is called as hirudin (Bodong, 1905; Electricwala *et al.*, 1991). It is heparin-like substance and most potent known natural inhibitor of thrombin. He also demonstrated its thrombin inhibitor effect. scientific research reveals the benefits of leech application and injection of several medicinally useful bioactive molecules present in their saliva (Adams 1988, Engemann *et al.*, 1981). Major known enzymes in the saliva of the leeches are anti-coagulant, anti-inflammatory, anti-odimatous and analgesic in nature (Whitaker *et al.*, 2004). Hirudotherapy (application of leeches for medical purpose) is the new modality of treatment employed in the advanced surgical and medical sciences. US FDA has approved the use of leeches for medicinal purpose in 2004. The significance of leeches in ecology and medicine needs no emphasis.

Material and Methods

Leeches were collected from different localities of river and ponds of Seemadaha, Melghat region. Collected leeches were kept in the laboratory without food at 20 °C in the dark avoiding direct sunlight. They were kept in suitable containers with sufficient dechlorinated tap water. The water was changed every other day. Sudden changes in temperature were avoided when transferring leeches from one container to another. Since leeches are amphibious and like to crawl about, a lid over container is essential. Leeches are small. The elastic leech body is capable of going through remarkable small opening. The top of the container was covered with cloth and tightly secured with string, rubber band or tape. Not more than twenty leeches were kept in a two container. For comparative purposes, we examined specimens of *Poecilobdella Blanchard* and *Asiaticobdella birmanica* collected from the river and ponds