

Chapter 09

Role of Herbal Medicine to Control Leishmaniasis

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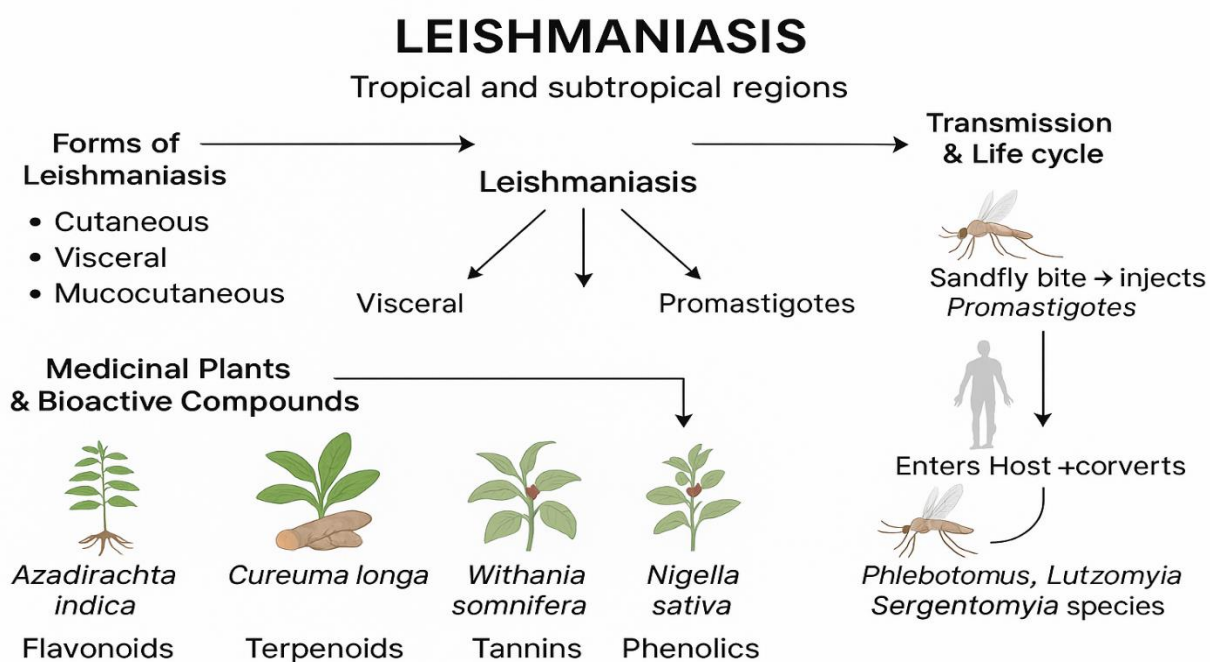
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GRAPHICAL ABSTRACT



Abstract:

Leishmaniasis is a major public health concern in tropical and subtropical regions because it is transmitted by sand fly bites and is caused by the *Leishmania* parasites. Leishmaniasis comes in three primary forms that can vary in severity and impact various tissues: mucocutaneous, cutaneous, and visceral. The parasites shift between mammalian and sand fly hosts during the *Leishmania* life cycle, alternating between promastigote and amastigote phases. Transmission is affected by the characteristics of sand fly vectors, especially those of *Phlebotomus*, *Lutzomyia*, and *Sargentomyia* species. Because of their strong leishmanicidal effects, immunological

modulation, and restriction of parasite metabolism, the bioactive compounds present in medicinal plants such as alkaloids, flavonoids, terpenoids, tannins, and phenolics make them appealing alternative treatments. Prominent therapeutic herbs with antileishmanial properties include *Azadirachta Indica*, *Curcuma longa*, *Withania somnifera*, and *Nigella sativa*. These natural chemicals offer a range of therapeutic solutions to improve illness management and support existing treatments.

Keywords: Leishmaniasis, *Leishmania*, Medicinal plant, Antileishmanial compounds,