

PL5. PHYTOCHEMICAL AND ANTILEISMANIAL ACTIVITY STUDIES ON THE TUBERS OF *CYCLAMEN ROHLFSIANUM* ASCH.

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Leishmaniasis is vector-borne disease caused by a protozoan endo-parasite species belonging to the genus *Leishmania* that live in the blood and tissues of the host. Basically the animals are infected. However, human population who live in the same environment are under risk. Destructive results on the skin, mucous membranes, and visceral organs are clinical manifestations mostly observed. Overall annual prevalence of the Leishmaniasis is approximately 12 million people and the size of the population at risk is approximately 350 million. On the other hand, it is expected that global warming will cause to increase in the number of vectors of the disease and probably in the number of countries.

Many plant extracts and the natural compounds isolated from the terrestrial plants and marine organisms have been evaluated for their antileishmanial activities.

The genus *Cyclamen* is one of the flowering plants that belongs to the family Primulaceae, and comprises numerous species, many of which are well-known for their ornamental value. Beyond their aesthetic appeal, some of the *Cyclamen* species are used traditionally for their potential biological activities. Triterpene-type saponins, flavonoids, and alkaloids are the major groups among the phytochemical constituents reported.

This study focused on the chemical constituents and antileishmanial activities of the tubers of *C. rohlfsianum* which is an endemic plant in the flora of Libya. It grows especially in limestone cracks, up to 450 m altitude, and the tuber extracts are traditionally used against *Leishmania* infections. The ethanolic extract of the tubers has been fractionated using reversed-phase silica gel (LiChroprep-C18). The antileishmanial activities of the fractions and as well as pure compounds isolated from the fractions have been studied. The structures of the isolated potent leishmanicidal compounds were established using 1D (¹H, and ¹³C-NMR, DEPT-135) and 2D-NMR (COSY, HSQC, and HMBC) experiments and HR-MS measurements.

Keyword: *Cyclamen*, antileishmanial, NMR