



CISSUS SUCCULENTA AND SCHINUS MOLLE- INVITRO ANTHELMINTHIC ACTIVITY AGAINST HAEMONCHUS CONTORTUS

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ABSTRACT

The most significant parasite in terms of economic impact in the production of small ruminants is *Haemonchus contortus*, the cause of haemonchosis. Chemotherapy control has failed since drug-resistant strains have quickly emerged. Alternative leads, particularly those from plants, are continuously sought after. *C.succulenta* aerial portions and *S. molle* bark were evaluated for their anti-helminthic properties against *H.contortus*. A motility test for adults and an egg hatching inhibitory test were used to assess *in vitro* adulticidal and egg hatching inhibitory effects of the extracts. The adulticidal activity of the extracts at higher doses (10 and 5 mg/ml) was substantially greater than that of albendazole and significantly superior to the negative control ($p<0.05$). Similarly, *S. molle* and *C. succulenta* extracts had relative egg hatch suppression efficacy values of 96% and 88%, respectively, within 48 hours of treatment at 1 mg/ml. A crude methanolic extract of the plants was found to be effective in inhibiting egg hatching and adulticidal effects in *H. contortus*.

Key words: *C.succulenta*, *Haemonchus contortus*, anti-helminthic properties, *S. molle*

INTRODUCTION

Global cattle output continues to be severely hampered by parasitic diseases [1]. This nematode parasite causes *haemonchosis* in small ruminant animals by feeding on their blood and causing anorexia, anemia, stunted growth, and even death. [1, 2]. Globally, a highly pathogenic parasite of small ruminants, *H. contortus*, stands in the way of profitable sheep and goat production [2, 3].

A combination of synthetic anthelmintic and proper grazing management is typically used to control worms [4]. The downside of synthetic anthelmintics is their resistance. A broad-spectrum as well as a narrow-spectrum anthelmintic resistance has been established for *H.contortus* [5, 6]. As of yet, Ethiopia has not conducted a national survey of anthelmintic resistance [7]. It has been found, however, that several areas of Ethiopia are resistant to albendazole, levamisole, tetramisole, and ivermectin [8]. Developing anthelmintics that are less expensive and effective can be achieved by investigating local herbal

medicines [9]. It is becoming increasingly popular to evaluate the antihelminthic properties of medicinal herbs. Animal helminth infections have been effectively treated with plant items in numerous publications, mostly from Africa [10–12].

According to studies, *C.succulenta* and *S.molle* are used to treat different helminthic infections. According to claims, *C. succulenta* was effective in treating helminths, lice as well as tick infestations in livestock. Similar to this, Ethiopian pastoralists and agropastoralists frequently employ *S. molle* to get rid of intestinal parasites [13, 14]. Therefore, it was determined that it was important to assess the anti-helminthic ability of 2 herbs that the pastoralist populations which was frequently utilised. The need of the study was to assess these plants' antihelminthic effectiveness against *H. contortus* in *in vitro* egg cultures.

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