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The prevalence of ecto parasitism among goats in Salem, Tamil Nadu, India

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Abstract

Parasitic infections remain an obstacle in goat industry and it has a major public health as well as economic impacts throughout the world. The present study was aimed to evaluate the prevalence of ecto parasites among goats of Salem district of Tamil Nadu. A total of 120 animals were screened for the ectoparasites in the *ad hoc* Veterinary Clinical Complex (which was functioning at the Veterinary Dispensary, Aragalur, Salem, Tamil Nadu), Veterinary College and Research Institute, Salem during the period from January, 2021 to January, 2022. Ectoparasitic examination showed prevalence of flea-*Ctenocephalides spp.*, lice-*Linognathus spp* and mite *Psoroptes spp.* in goats of the Thalaivasal block, Salem district, Tamil Nadu.

Keywords: Salem, ecto parasites, goats, ectoparasitic examination, major public health

Introduction

Goats also known as “Poor man’s cow” which are largely reared for the source of income by the poor land holders. The total of 76% of the goat population of the country is obtained by the marginal and small (<2 ha of land) farmers (Singh *et al.* 2018) [5]. The ecto parasitism affects the g productivity of goats. The ectoparasites causing severe damage to the skin which reduces its value. The ticks are responsible for the transmission of various hemoprotozoan and rickettsial diseases in goats (Friedhoff, 1997) [2]. As a result of their activities, causing both acute and chronic infections which may lead to economical loss to the marginal farmers. The prevalence of parasitism is not quite common to the place; the tropical environment is highly favourable for development of parasitic infections (Muraleedharan, 2005) [4]. Hence, the current study is aimed to find out the prevalence of the ecto parasitic infections in goats of the Thalaivasal block, Salem district, Tamil Nadu.

Materials and Methods

One hundred and twenty animals with the history of pruritus, erythema, alopecia, pyoderma, variable degree of scab/crusts formation and presence of fleas, mites, lice were examined and inspected for ectoparasites in the *ad hoc* Veterinary Clinical Complex (which was functioning at the Veterinary Dispensary, Aragalur, Salem, Tamil Nadu), Veterinary College and Research Institute, Salem. The geographical location of the study lies between 11° 33' 38.74" North latitude and 78° 47' 19.04" East longitude. The samples were collected for a period from January, 2021 to January, 2022.

The selected goats for examination were thoroughly investigated by close inspection, palpation and parting the hairs on the body surface. Fleas and lice were collected by hand picking and smeared with ethanol and to collect the mites, skin from the different lesions were scraped and examined by adding 10% potassium hydroxide (Hendrix and Robinson, 2006) [3]. Ectoparasites were identified based on the morphological descriptions given by Soulsby (1982) [6]. The prevalence of ectoparasites were estimated as a percentage (%) of number of goats parasitized in the total number of goats examined.

Results and Discussion

The climatic conditions of Salem Tamil Nadu are highly favourable for parasitism in the animals. The current study is the first to report the parasitism in goats in the Salem, Tamil Nadu and it is clear that the goats were affected by variety of ecto-parasites.

Among 120 examined goats, 79 (65.83%) were infested with single species of ectoparasites. A total of 3 species of ectoparasites were identified microscopically, of them one was flea namely *Ctenocephalides spp.* (48.10%), lice, *Linognathus spp.* (36.71%) and mite, *Psoroptes spp.* (15.19%). Distribution of ectoparasites on the host, gross lesions and prevalence of ectoparasites were represented in the Table 1. Ectoparasites infested goats revealed characteristic clinical signs of alopecia, variable degree of scab/crust formation, erythema and parasitic infestation (Fig.

1). The most prevalent ectoparasite in Salem district among goats during study period was the Flea, *Ctenocephalides sp.* which is in agreement with previous studies in Tamil Nadu (Soundararajan *et al.*, 2018) [7]. Microscopic examination of skin scrapings taken from the affected goats revealed the presence of adult mites with typical morphological features of the genus *Psoroptes sp.* (15.19%) which is accordance with the report of Chakrabarti (1994) [1] who observed 13.4% *Psoroptes sp.* infestation in goats in India.

Table 1: Prevalence (%) of ectoparasites in goats of Salem district, Tamil Nadu

S. No.	Name of the parasite	Location on the host	Gross lesions	Prevalence (%)
1.	<i>Ctenocephalides spp.</i>	Presence of flea in the ear, neck, base of the horn, tail, entire body surface-lower back, posterior and inner thigh	Truncal alopecia, leathery skin, self-trauma due to intense pruritus	38 (48.10%)
2.	<i>Linognathus spp.</i>	Presence of lice in the ear, neck, costal and abdominal surface	Intense pruritus and alopecia	29 (36.71%)
3.	<i>Psoroptes spp.</i>	Ear, face, neck, ventral abdomen, limbs and tail	Dermatitis, pruritus, erythema, rough skin, alopecia, variable degree of scab/crust formation, excoriations and lichenification	12 (15.19%)
Overall prevalence of ectoparasites				79 (65.83%)

Number in parentheses indicate percentage of prevalence of ectoparasites

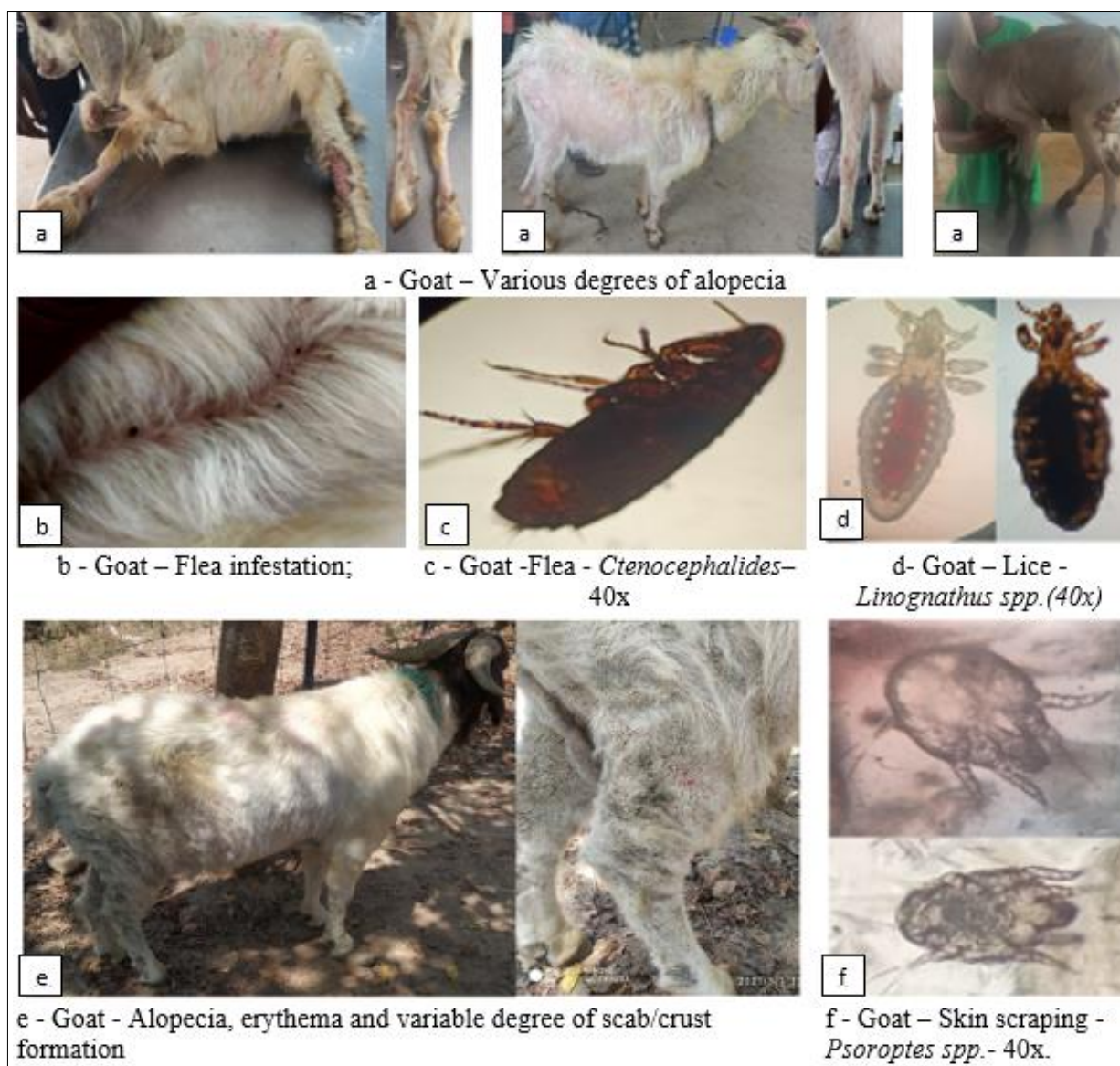


Fig 1: Clinical signs showed by ecto parasitism in goats of Salem district, Tamil Nadu

Conclusion

It is concluded that ecto parasites of economic and zoonotic significance exist in goats of Salem district of Tamil Nadu. So, the periodical assessment of ecto parasitic infections needed for prevention and control of parasitic infections.

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