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SARCOPTIC MANGE IN SHEEP IN HIGHLAND BALOCHISTAN

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An investigation in Kalat district of highland Balochistan revealed that mange mite infestation in sheep is an important parasitic problem in the district. One species of mites, *Sarcoptes scabiei,* was identified from the scraped material of the infested sheep. Overall prevalence of *Sarcoptes scabiei* was recorded as 21.0 %. No specific pattern of mite infestation lesions was found on the sheep. Severity of lesions was observed on ears, face, shoulder, loins, on the back and upper side of the body. Poor sanitary conditions, imbalanced nutrition, poor management and congested housing seemed to be responsible for mange mites infestation. A tendency to overlook the mange mites infestation and unawareness of the farmers to use acaricides further paved the way for prevalence of this infestation.

Key words: Balochistan, highland sheep, sarcoptic mange

INTRODUCTION

Small ruminants are the principal livestock of the province of Balochistan because they are physiologically better suited than cattle to the severe environmental conditions in this province (Rafique *et al.,* 1997). Mange is a common dermatological problem and is mostly caused by *Psoroptes ovis, Chorioptes ovis* and *Sarcoptes scabiei* (Sweatman, 1958) and is known to cause 30 % loss in weight (Kirkwood, 1980). *Sarcoptes scabiei,* the itch mite, causes scabies in man and mange in a wide range of domestic and wild mammals throughout the world. The burrowing and feeding of the mites in the skin cause irritation and consequential scratching which leads to inflammation and exudations forming crusts on the skin. If left untreated the skin wrinkles and thickens with proliferation of the connective tissue, followed by depilation. Death of the animals may occur in severe mite infestation (Satiji *et el.,* 1981). Limited information is available regarding epidemiology of mange mites in this province, hence the study was conducted to investigate the prevalence of mange mites in sheep in highland Balochistan.

MATERIALS AND METHODS

An investigation was carried out to determine the taxonomy and prevalence of mange mites infesting sheep ill Kalat district of highland Balochistan. During a period of six months, 180 adult sheep were carefully examined irrespective of sex for the mange mites infestation.

Parasitological Examination: Deep skin scrapings were collected from the suspected active lesions on the skin of infested sheep with the help of a sharp scalpel in small plastic vials. The scraped material was then treated with 10 % potassium hydroxide solution in the test tubes for 12 hours and centrifuged at 1500 rpm for five minutes. The supernatant was discarded and the sediment was examined under low power (10X) of microscope' for the presence of mites. For the identification of different species, recovered mites were treated with 10 % acetic acid for half an hour to remove the traces of alkali, washed with distilled water, stained with acid fuschin for one minute and again washed with water to remove the excess stain. The mites were dehydrated by passing them through 30, 50, 75, 90 % absolute ethanol, keeping them for 5-7 minutes, in each dilution. The specimens were transferred to cedar wood oil and kept over night. Permanent mounts were made with Canada balsam and identified according to the keys described by Soulsby (1982).

RESULTS AND DISCUSSION

Microscopic examination of the recovered mites revealed the occurrence of single species of mites i.e. *Sarcoptes scabiei.* Their skin is striated bearing ventrally a central patch of raised scales, having suckers on a long unjointed stalk on pairs 1st and 2nd in case of female and on pairs 1st, 2nd and 4th in male. Similar characters of sarcoptic mites have been described by Soulsby (1982). Mange mites infestation

with different species has been reported by various workers in sheep. For instance, Sarcoptic mites (A/vi and Khan, 1963; Chineme *et al.,* 1979); *Demodex* spp (Murray, 1959; Du Toit and Fiedler, 1967); *Psoroptic* mites (Liebisch, 1979; Yeruhum and Hadeni, 1985); *Psorergates ovis* (Malan and Roper, 1982; Johnson *et al.,* 1990); *Chorioptic* mites (Kirkwood and Littlejohn, 1970). Lesions of mite infestation were found all over the body with no specific pattern, being more on ears, face, shoulder, loins, on the back and upper side of the body. Patchy alopecia was the salient feature observed in the infested sheep.

Overall prevalence of s~."bptic mites infesting sheep was recorded as 21.()~. The climate of Balochistan is suitable for the propagation of mange mites, because a temperature range from (19.0-24.4°C) seemed to. be optimum for the propagation of *Sarcoptes sdabiei* (Qudoos *et al.,* 1997). This figure could be. even higher if more extensive surveys involving large population of sheep are conducted. During investigation, it was observed that poor sanitary conditions, imbalanced nutrition and poor rnanaqernent by the farmers were the common features. Crowded housing of the sheep at night by the farmers also facilitates transmission of mites from infested sheep to healthy ones. Imbalanced nutrition is a problem in Balochistan, because small ruminants obtain more than 90 % of their feed requirements from range vegetation and these rangelands are producing approximately 80-100 kg dry matter/ha! year (Rafique *et al.,* 1997). It is, therefore, not surprising that these animals are highly underfed and are more prone to parasitic diseases. Also, a tendency was noticed to overlook the mange mites infestation by the farmers. Their unawareness to use acaricides for the control of mange mites infesting their sheep further aggravated the situation resulting into favourable conditions for mange mites propagation.

Recommendations: It is recommended that flock owners should be trained to manage their animals properly, maintain hygienic conditions and use acaricides!sheep dips regularly. Extensive efforts should be made to provide at least basic information pertaining to mange mite infestation and damage being caused by them. Since the disease is an important ectoparasitic problem, affecting the productive capabilities of sheep, work should be undertaken on large scale to help eradicate this menace from farmers flocks. NGOs working in that area and pharmaceutical firms should come forward to help the Govt. department responsible for providing health cover to such animals.

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