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## Incidence of sarcoptic mange and clinical management in rabbits in an organized farm at Andhra Pradesh

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### Abstract

The present study was conducted to evaluate the cause of dermatitis in farm raised rabbits (n=23) in an organized farm at Andhra Pradesh and revealed mange was the cause of dermatitis in 78.26 per cent of rabbits. Among the mange infected rabbits adult rabbits (66.67%) were heavily infested as compared to the grower (27.78%) whereas, suckling had very low incidence (5.55%) of infestation of mange. Sex wise incidence of mange revealed males (55.56%) were affected more than the counter sex (44.44%). All the infested rabbits were responded to the following three weeks of Ivermectin (400 µg/kg b.wt) therapy.

**Keywords:** ivermectin, rabbit, scabies, skin scraping, sodium hydroxide

### Introduction

Burrowing types of mites are invading the epidermis of the domestic animals and including human worldwide to cause mange infestation. Moreover, scabies is most stubborn and zoonotic important contagious disease [1]. Among the burrowing mites *Sarcoptes scabiei* found more commonly in dogs and rabbits [2]. Skin infection with mange infestation in farm raised rabbits become a common and major constraints in Indian climatic condition [3]. More commonly the mange infestation in rabbits exhibited as intense pruritus, alopecia, erythema, scabby and dry crusty deposition in all over the body and extensively around the ear margins [4]. Scabies is tentatively diagnosed based on skin lesion and confirmed by skin scraping technique and Ivermectin (300-400 µg/kg/b.wt) subcutaneously is effective in controlling mange infestation in rabbits [5]. The present paper deals with incidence and clinical management of mange infestation in rabbits in an organized rabbit farm at Andhra Pradesh.

### Material and Methods

#### Location of study

A total of 23 rabbits (different age group) were examined out of 150 population for the presence of skin infection at rabbit farm, Medikonduru, Andhra Pradesh.

#### Skin coat examination

Skin coat was examined thoroughly from head to tail in all the affected rabbits (n=23) included in the present study.

#### Observation of clinical signs

The activity of infested rabbits was not comfortable due to continuous scratching and biting of their affected areas. The gross lesions present on the skin coat were observed and recorded.

#### Skin scrapings

Scrapings from the ear margin, around the orbit of the eyes, nose, legs and tails were collected and examined after treating with 10% sodium hydroxide as procedure described by Prakash *et al.* (2017) [6]. Briefly, the affected area of skin was moisturized with the liquid paraffin and scrapped until oozing of the blood with a help of sharp, clean and sterilized blade and identified by microscopical characteristics of burrowing mites [7].

### Results and Discussion

The present study recorded clinical signs in mange infestation suspected rabbits (Table 1 and Figure 1). The clinical signs recorded in the present study included, alopecia, thickening of the skin, dirty crusted irregular raised dried scabs and deformation of face and ear.

Similar clinical signs were also observed by Rajkhowa *et al.* (1997), Soundararajan and Iyue (2005), Darzi *et al.* (2007) and Prakash *et al.* (2017) [6, 8, 9, 10].

Skin scraping from ear margin, around the orbit of the eyes, nose, legs and tails were in mange infestation suspected rabbits revealed 18 (18/23) rabbits had positive for scabies (Figure 2) and 5 (5/23) negative for scabies based on the microscopical examination (Figure 3). The incidence of mange infestation in the present study was 78.26 per cent among the skin infection affected rabbits. The present study was an accordance with statements of Darzi *et al.* (2007) and Deshmukh *et al.* (2010) [10,11] who also reported dermatological conditions were most common clinical problem in domestic farm reared fur bearing animals especially in rabbits, moreover mite infestation was one of the most common in rabbits and causes more economic losses also.

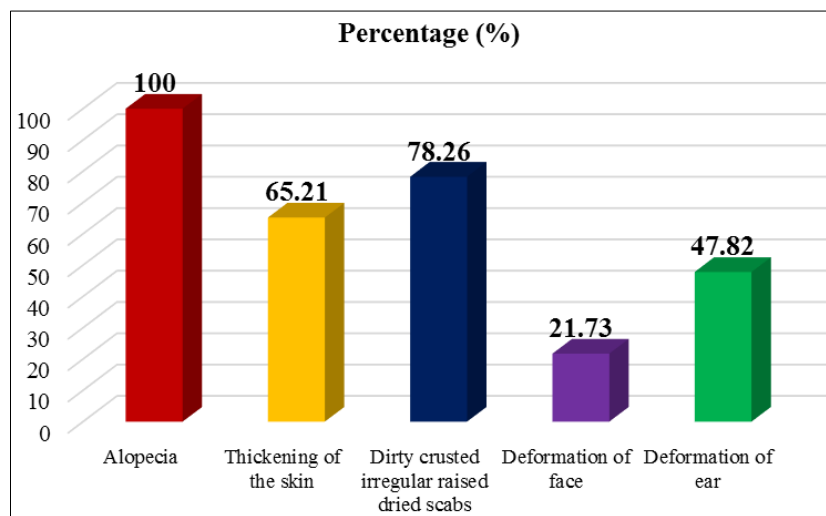
Among the age groups observed, adult rabbits (66.67%) were heavily infested as compared to the grower (27.78%) whereas, suckling had very low incidence (5.55%) of infestation of

mange (Figure 4). In the present study, incidence of scabies in age group varied similar to the observation of Prakash *et al.* (2017) [6] who recoded that adults were heavily infested than the grower (33.33 Vs 21.88%). Among the sex of the rabbits observed, males (55.56%) were affected more than the female (44.44%) rabbits (Figure 5). The present findings in regards with sex of the rabbits affected was in correspondence with the observation of Prakash *et al.* (2017) [6] who opined males were heavily infested than the females (21.95 Vs 14.89%).

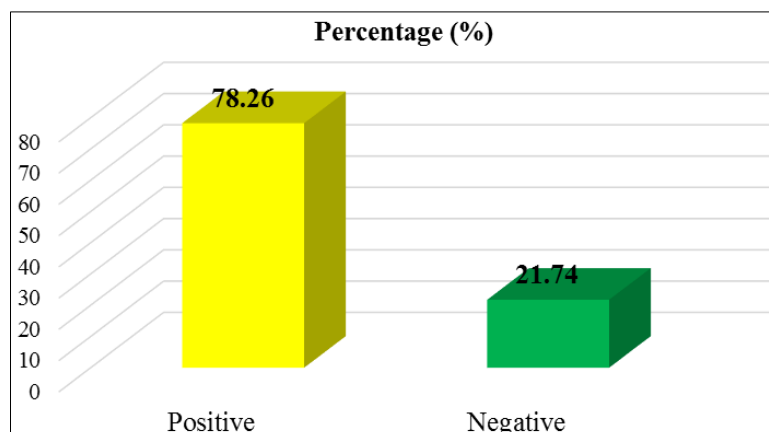
In the present study, all the infested rabbits were treated with Ivermectin (400 µg/kg b.wt) subcutaneously at seven days intervals up to three weeks. Additionally, vitamin supplement (Proviboost) was also administered orally as 4 drops twice a day. There was noticeable improvement in skin lesions after three weeks of treatment. The skin scrapings taken from the respective sites which were taken previously revealed absence of mites after three weeks of treatment. Accordingly, exhibition of alopecia and intense itching were also reduced totally. Treatment response in the present study was in accordance with the reports of Reddy *et al.* (2016) [12].

**Table 1:** Incidence of exhibition of different clinical signs in mange suspected rabbits (n=23)

S. No	Clinical signs	Number of rabbits exhibited signs	Percentage (%)
1	Alopecia	23	100.00
2	Thickening of the skin	15	65.21
3	Dirty crusted irregular raised dried scabs	18	78.26
4	Deformation of face	5	21.73
5	Deformation of ear	11	47.82



**Fig 1:** Incidence of exhibition of different clinical signs in mange suspected rabbits (n=23)



**Fig 2:** Incidence of skin scraping positive for mange infestation in rabbits



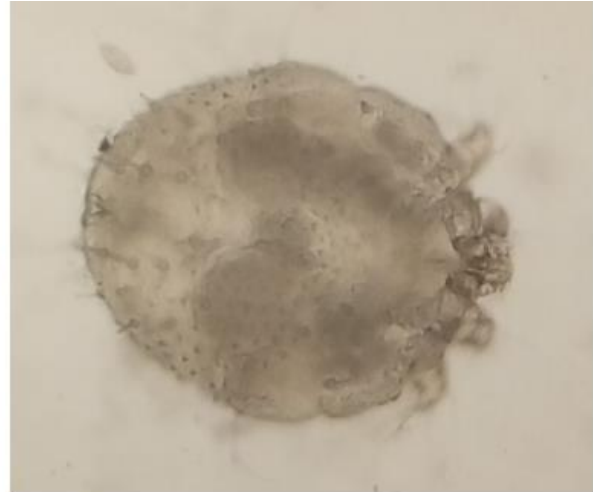
**Alopecia and erythema lesion in leg**



**Deformation ear with scabs lesion**

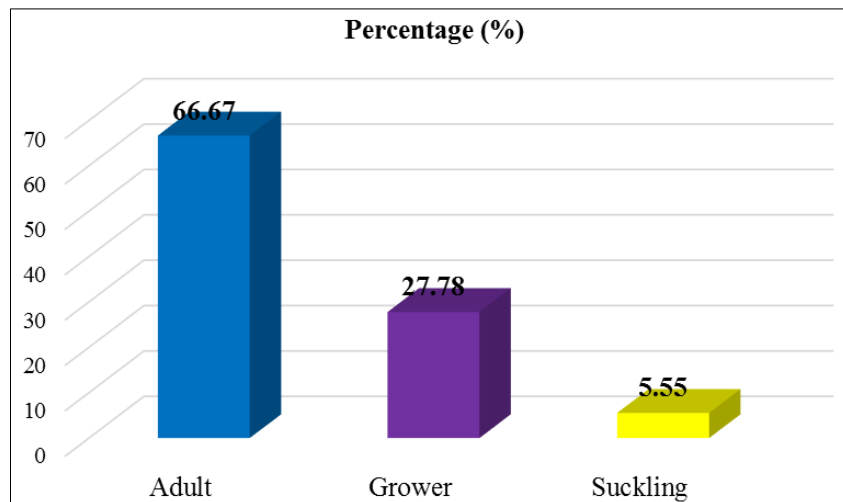


**Alopecia in tail region**

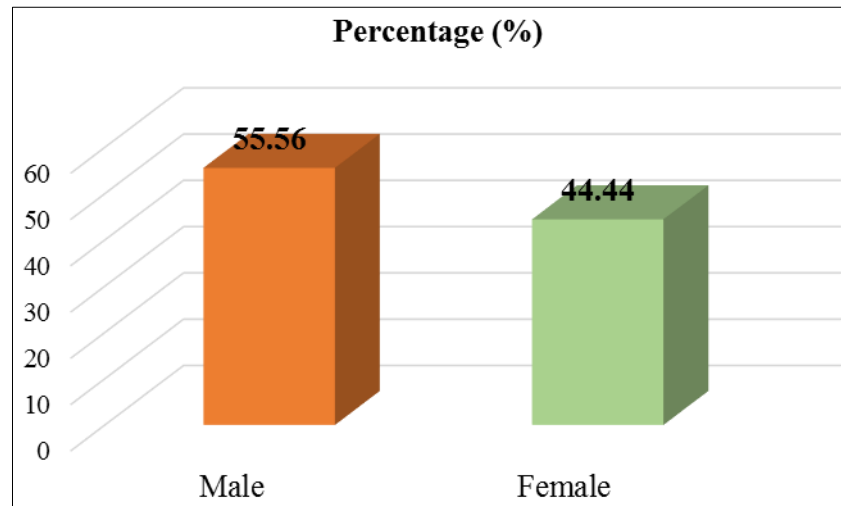


**Furrowing mite- *Sarcoptes scabiei***

**Fig 3: Clinical signs and characteristics of mites**



**Fig 4: Age wise incidence of mange infestation in rabbits**



**Fig 5:** Sex wise incidence of mange infestation in rabbits

### Conclusion

*Sarcoptes scabiei* found more commonly in farm raised rabbits and exhibited as intense pruritus, alopecia, erythema, scabby and dry crusty deposition in all over the body and extensively around the ear margins. Scabies was diagnosed based on skin scraping technique and Ivermectin (300-400 µg/kg/b.wt) subcutaneously was effective in controlling mange infestation in rabbits.

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