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## Role of animals in the spread of human ringworm disease in Madras

Dermatophytosis in animals is an important public health problem, since this disease is frequently transmitted directly or indirectly from domestic and wild animals to man by contact<sup>1,2</sup>. Several workers have reported zoonotic ringworm disease of man from different parts of India<sup>3-5</sup>. Here we report the isolation of three strains of *Trichophyton mentagrophytes* from animals and their epidemiologic importance in human ringworm disease in Madras since such data is not available.

One lion cub, one Nilgiri langur, three lamas, and three camels in Arignar Anna Zoological Garden and 22 dogs (17 native breeds, 2 German Shepherds, 2 Doberman, 1 pomeranian), 11 cattle and 1 donkey calf in and around the city of Madras were screened. The animals were thoroughly examined for the presence of any lesion suggestive of ringworm with the help of a veterinary officer. The fur was then combed with a sterile tooth brush and then stabbed onto Sabouraud's dextrose agar plates with and without antibiotics (chloramphenicol 0.5 mg/ml, cyclohexamide 0.5 mg/ml). The plates were incubated for 6 weeks at 26°C. Identification was done based on colony morphology and microscopic characters of the fungus. Hair perforation test, urease test and pigment production in corn meal agar were also

performed. Mating experiment was done on the teleomorphic identity and mating type of the isolates using the method of Padhye and Carmichael<sup>6</sup>. All the three strains of *T. mentagrophytes* were crossed with *Arthroderma benhamiae* RV26778(+), RV26780(-), *Arthroderma benhamiae* (African race) RV30000(+), RV30001(-), *Arthroderma vanbreuseghemii* RV27960(+), RV27961(-) and *Arthroderma simii* RV54201(-), RV25472(+) respectively. Sterilized garden soil baited with sterilized horse and guinea pig hair was used for conducting mating experiment. The plates were incubated at 26°C for six weeks away from light. Teleomorphs and mating types were identified on the basis of the production of gymnothecia. Asci and ascospores were examined microscopically.

In the present study, we isolated three strains of *T. mentagrophytes*, one each from a lion cub and two dogs. No symptomatic lesions were observed in these animals suggesting that animals may act as carriers of dermatophytes. All the animal isolates of *T. mentagrophytes* and 6/70 clinical isolates of *T. mentagrophytes* isolated in our previous study produced gymnothecia with *A. vanbreuseghemii* (-) mating type and was identified as *A. vanbreuseghemii* (+) mating type. The six clinical isolates which were recovered from severe cases of tinea capitis in

children belonged to rural Madras. These children would have contracted the disease while playing with animals. The isolation of one strain of *T. mentagrophytes* from a lion cub suggests that wild animals also may harbour pathogenic dermatophytes. Though the number of animals screened in the present study was small, findings strongly suggest that animals may act as vectors of human ringworm disease, especially in rural areas.

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