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A NOTE ON THE OCCURRENCE OF SQUIRREL FLEA *(DIMANUS MONTANUS)* IN PUDUCHERRY (U.T.) INDIA

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ABSTRACT

Examination of flea collected from a young three-stripped palm squirrel (Funambulus palmarum) from the backyard showed moving, dark brown with varying sizes around eight numbers and on further microscopic examination revealed the occurrence of Diamanus montanus commonly called as "Squirrel Flea". This publication will focus on Diamanus montanus, which is very rarely recorded and preferentially infest rodents.

KEYWORDS

Diamanus montanus, three-stripped palm squirrel, flea.

1. INTRODUCTION

Biological invasions are one of the major causes for biodiversity loss worldwide, therefore the attention on prevention and control of driving vector species settlement, their spread and their subsequent impact on native ecosystems is constantly growing and under threat. Flea-borne infections are emerging or re-emerging throughout the world, and their incidence is on the rise. Based on a study, their distribution and that of their vectors is shifting and expanding [1].

Diamanus montanus, a common squirrel flea belong to the family Ceratophyllidae and Order Siphonaptera a rich amber color insect that feed on blood and flattened bilaterally. Fleas should not be found in modern, well- managed animal facilities. However, they may gain access to the facility through vectors such as animal caretakers, incoming laboratory animals, or wild rodents or they may enter on fomites such as contaminated feed or bedding bags. According to a study, while most species of flea have host preferences, they are not strictly host-specific [2].

Three-stripped palm squirrel is listed as Least Concern in because of its wide distribution which is expanding, presumed large population, occurrence in a number of protected areas, tolerance to some degree of habitat modification, and very adaptable species. It is a diurnal and semi-arboreal. This species occurs in tropical and subtropical dry deciduous forest, mangrove forest, grasslands, scrublands, plantations, rural gardens and urban areas.

2. MATERIALS AND METHODS

Research showed the flea sample from three-stripped palm squirrel (Funambulus palmarum) were separately processed and examined by routine parasitological methods [3]. Permanent mounts were prepared for detailed study. Study showed specific identity of the ectoparasites was determined based on the morphological characters given by [4].

3. RESULTS AND DISCUSSION

Ectoparasitic flea from three-stripped palm squirrel Diamanus montanus (Figure 1) a common squirrel flea is 1.5 mm to 2.5 mm long and is a rich amber color insect that feed on blood. Adults are wingless, flattened laterally and are heavily armored. These characteristics help them survive on animal hosts and the hind pair of legs is well–developed for jumping [5]. The larvae that hatch from eggs were rarely observed and they are worm like and do not feed on blood. Instead, they consume blood rich waste from adult flies. The larval stages are usually limited to the nest or burrow. According to a study, adults are most plentiful during the cooler months of the year [6].

Figure 1: Three-stripped palm squirrel Showing Diamanus montanus

Diagnosis is made by identifying the parasite on the host. Little is known of the pathologic effects and clinical disease caused by Diamanus montanus. Treatment regimens effective for eliminating dogs and cat fleas should also effectively eliminate D. montanus from rodents. Procurement of parasite-free animals from reputable sources, exclusion of wild rodents, as well as inspection, isolation, and routine treatment of all newly acquired wild rodents captured in their native environment prevent entry of this parasite into the animal facility. Public Health Considerations Diamanus montanus is the primary species which transmits the bacteria that produces plague. Plague is a potentially life-threatening disease caused by an infection of the Yersinia pestis. Even though plague rarely affects humans, still it holds great historical importance such as the devastating Black Death [7]. However, detailed studies on the transmission and control measures of Diamanus montanus infection and its relation to parasitic infections need to be undertaken.

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