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Case Report

Human Dermatitis Caused by *Ophionyssus natricis*, a Snake Mite

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Abstract

Ophionyssus natricis is a purely blood sucking parasite of snakes and of worldwide distribution. Infected snakes often exhibit lethargy, pruritus, crusting dermatitis, and behavioral changes. *Ophionyssus natricis* can also attack humans, causing popular vesiculo-bullous eruption of the skin. A 29 years old man working in zoo, Sari, Mazandaran, Iran, presented itchy papullar eruption of the skin. He had noticed small insects fixed on his skin and large numbers of these same insects on a python and its cage in the zoo. Regarding to their morphological characteristics they were diagnosed as *O. natricis* (Geravis, 1844), a snake mite. It is the first report of *O. natricis* from Iran.

Introduction

Both wild and captive reptiles are frequently affected by external parasites. Of these, acarids (ticks and mites) are the most commonly encountered. The most common ectoparasite in captive snakes is the hematophagous snake mite (*Ophionyssus natricis*) belonging to the Macronyssidae family of the suborder Mesostigmata (1). Adults are 0.6–1.3 mm long. Unfed females are yellow-

brown; engorged females are dark red, brown or black. The cuticle bears only a few short bristle-like hairs (Fig. 1). The engorged female leaves the host and deposits eggs in cracks and crevices. The eggs hatch in 1–4 days, developing through larva, protonymph and deutonymph stages to the adult. Larvae do not feed but nymphs must feed before moulting to the next stage. The life cycle takes 13–19 days (2).

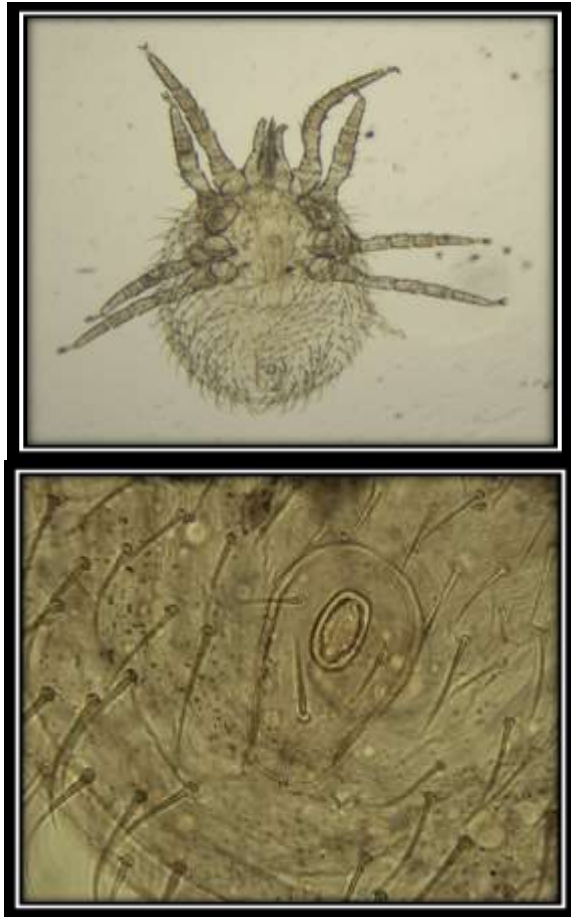


Fig.1: Venter of *Ophionyssus natricis* from Python snake (left) and anal plate (right)

O. natricis has a worldwide distribution affecting mainly snakes and to a lesser extent lizards. Infected snakes often exhibit lethargy, dysecdysis, pruritus, crusting dermatitis (sometimes progressing to abscesses), and behavioral changes (increased bathing time, rubbing against objects). Anemia and septicemia are occasional complications (3). The mite, which thrives in skin crevasses, acts as an irritant to the snake that can cause parasitic dermatitis, but often leads to increased, irregular shedding cycles (3). *O. natricis* can also attack humans, causing popular vesiculo-bullous eruption of the skin (4).

Case report

A 29 years old man working in Sari Zoo, Sari, Mazandaran, Iran, presented itchy papular eruption of the skin (Fig. 2). Papular rash were on the forearms and legs of the man. He had noticed small insects fixed on his skin and he had attempted to remove them, also large numbers of these same insects were on a python and its cage in the zoo. Department of veterinary parasitology, veterinary faculty, Islamic Azad University, Babol Branch was asked to examine the python. The snake was a 2.95m caramel burmese python snake and insects were collected from the snake and its glass cage in the zoo. Insects were found at several locations, moreover beneath the tale scales (Fig. 3). The man who feeds and takes care of python with papular rash was also examined and behavioral changes noticed such as, restlessness, irritation, anorexia, and short cycles of skin shedding in python history.

Samples were preserved in alcohol, and then made them transparent in lacto phenol in order to observe them under the light microscope. They were identified regarding to their morphological characteristics as *O. natricis* (Geravis, 1844), a snake mite. For diagnosis confirmation, samples were sent to Iran veterinary parasitology museum and deposited with accession number of 733. It is the first report of *O. natricis* from Iran.



Fig.2: The lesions on the arm. Note the erythema around the biting sites



Fig.3: Python infestation with *Ophionyssus natricis*

Discussion

O. natricis is a purely blood sucking parasite of snakes and is of worldwide distribution (5, 6). The diagnosis of snake mite infestation is usually straightforward: the parasites are easily identifiable with the naked eye or with a magnifying glass. Water bowls can be examined for drowned parasites. The definitive diagnosis is made by microscopic identification (7, 8).

Pet animal infestations are a common cause of human skin eruptions. Snakes are uncommon pets but their popularity is increasing. When patients with unusual pets such as snakes or lizards present at dermatology clinics, *O.natricis* should be considered as a cause of dermatitis (7).

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The authors declare that there is no conflict of interests.

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