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LETTER TO THE EDITOR

A comment on "First report of tinea corporis caused by *Arthroderma benhamiae* in Brazil"

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Dear Editor,

We read with great interest the article by de Freitas et al. [1] recently published in the *Brazilian Journal of Microbiology* (2019, Braz J Microbiol 01:01–03). The authors bring up the first report of tinea corporis caused by *Arthroderma benhamiae* in Brazil, which addressed the potential zoonotic transmission of this new dermatophyte species. In this article, the authors have identified *A. benhamiae* from a 19-month-old girl presenting erythematous, annular plaque on the lumbar region that had previous contact with a free-roaming cat. In this regard, the authors had suggested that the cat was involved in the transmission of this pathogen. Here, we intend to provide an additional perspective and also shed light on other pertinent aspects to be addressed to contribute to this matter.

It has been only in recent years that *A. benhamiae* gained recognition as a meaningful zoophilic dermatophyte that can lead tinea in humans [2]. Despite ongoing research in this field, there are still gaps related to *A. benhamiae* transmission, and the clinical impacts of its underlying infection remain not fully understood. Indeed, as mentioned by the authors, it has been widely recognized that cats are potential sources of infection and may transmit dermatophytosis to humans. However, it is important to take account that small rodents are the main reservoirs of *A. benhamiae*. Recent reports have demonstrated that exotic pets (mostly guinea pigs) present a high infection rate (ranging from 69 to 58%) and may pose a higher zoonotic risk than dogs and cats [3–5]. Therefore, in our opinion, previous contact with these animals should be also taken into consideration in epidemiological investigations, mostly because they can act as an asymptomatic carrier.

Considering that human-animal interactions are increasing, it seems to be that human-pet bonds are key parts of the dynamic of transmission of *A. benhamiae* and other dermatophyte agents. Thus, we strongly encouraged that One Health integrative actions should be considered as a single step to connect medical and veterinary communities in this shared field. In line with it, it is important to reiterate that if animals (infected or asymptomatic) are not properly diagnosed and treated, they may act as a continuous and recurrent source of infection, contributing to widespread contamination and transmission of dermatophytes to other hosts, including humans. Therefore, this interdisciplinary cooperation is needed to establish strategies of prevention and control of dermatophytosis.

A controversial point is how to improve and standardize the diagnosis of these new dermatophytes. Conventional techniques such fungal culture present several limitations and could lead to misdiagnoses. More recently, with advent of molecular diagnosis, dermatophyte agents have been more accurately diagnosed [6]; however, these tools are not yet available in most of mycology laboratories. In addition, the recent description and recognition of new dermatophytes species has been lead to some confusion of clinicians (from both human and veterinary medical communities), especially regarding the taxonomy changes and new fungal nomenclature.

To conclude, we totally agree that the cases of zoophilic dermatophytosis have been increasing worldwide, which currently represents a great challenge for physicians and veterinarians. We would like to congratulate de Freitas et al. [1] for their valuable contribution regarding the description of this new dermatophyte species in Brazil and also for presenting an informative overview about the challenges related to the development of more efficient strategies for the management and diagnosis of dermatophytosis. Finally, we believe that much is left to be done in clinical research to better understand the pathogenic

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and epidemiological aspects of dermatophytosis caused by *A. benhamiae*, and we hope that the scientific community pay more attention to this possible emerging pathogen.

Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest.

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