

**TITLE:** DERMATOPHYTES IN SOIL SAMPLES FROM PUBLIC PARKS AND SQUARES OF THE CITY OF SÃO PAULO

**AUTHORS:** TAMAKI, G. F. S.; NEVES, J. J. A.; COUTINHO, S. D. A.

**INSTITUTION:** PROGRAMA DE PÓS GRADUAÇÃO EM PATOLOGIA AMBIENTAL E EXPERIMENTAL – UNIVERSIDADE PAULISTA (AV. JOSÉ MARIA WHITAKER 290, 3º ANDAR, CEP 04057-000, SÃO PAULO-SP, BRAZIL).

**ABSTRACT:**

Dermatophytes are filamentous fungi that cause dermatophytosis. They are important for Public Health being transmitted between animals and humans, causing zoonosis. They parasitize keratinized tissues and use keratin as a nutritional and energetic substrate for their growth. Soil may be involved in the epidemiological chain of dermatophytoses, because it is the reservoir of geophilic species. Many people use public parks to spend time in relaxation or enjoyable activities. In these places human-animal-environment interaction occurs and there is a risk to acquire infections by the contact with contaminated soil. Little epidemiological data on dermatophytes in soil has become available in our country. Therefore, the aim of this research was to verify the presence of dermatophytes in soil of public parks/squares in the city of São Paulo. Nine parks/squares were studied in different areas of the city and five soil samples were collected at different places in each park, totaling 44 samples (in one park were collected four samples). Places were chosen considering the possible interaction of humans and animals with soil; namely playground areas, sand tanks, gym areas, and areas for dogs. The fungi were isolated from the soil with the hair baiting technique of Vanbreuseghem, using horse hair as keratin bait, and the plates were incubated at 25°C for up to four weeks. The parasitized hairs were seeded on Mycosel agar incubated at 25°C and the colonies were submitted to microculture technique. Phenotypic macro-and-microscopic characterization was performed. Dermatophytes were isolated in 89% (8/9) of the parks/squares studied and 39% (17/44) of the samples. Only geophilic fungi were isolated. *Microsporum gypseum* was the most frequent species (Fig. 1), being isolated in 78% of parks/squares (7/9) and 88% (15/17) of the positive soil samples. *Trichophyton ajelloi* was isolated in one park and in 12% (2/17) of the positive samples. *Microsporum gypseum*, although geophilic fungi, has been reported causing infections in man, domestic and wild animals, including with interspecies transmission. *Trichophyton ajelloi* is more common in human infections, but have already been reported in animals. Since the transmission of dermatophytes occurs both via direct or indirect contact, the soil of these parks/squares represent risk for humans and animals to acquire dermatophytosis.

**Keywords:** dermatophytes, soil, *Microsporum gypseum*, *Trichophyton ajelloi*

Scientific Initiation Project – Paulista University