bacterial evolution driving genomic diversity. 2018;4:e000199. https://doi.org/10.1099/mgen.0.000199

- Jiang J, Chan TC, Temenak JJ, Dasch GA, Ching WM, Richards AL. Development of a quantitative real-time polymerase chain reaction assay specific for *Orientia tsutsugamushi*. Am J Trop Med Hyg. 2004;70:351–6. https://doi.org/10.4269/ajtmh.2004.70.351
- Weitzel T, Acosta-Jametta, G, Jiang J, Martínez-Valdebenito C, Farris C, Richards AL, et al. Human seroepidemiology of *Rickettsia* and *Orientia* species in Chile – a cross-sectional

study in 5 regions. Ticks Tick Borne Dis. 2020;11:101503. https://doi.org/10.1016/j.ttbdis.2020.101503

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<u>etymologia</u>

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Dermatophyte [dur'ma-to-fit"]

From the Greek *derma* (skin) + *phyton* (plant), dermatophytes are a group of 3 genera of filamentous fungi (*Microsporum, Epidermophyton*, and *Trichophyton*) that have the ability to invade keratinized tissues and cause superficial infections in humans and animals. Dermatophytes were improperly assigned to the Plantae kingdom until 1969, when they were then classified into the Fungi kingdom.

Dermatophytosis is also referred to as ringworm or tinea (Latin for "worm") because it can cause ring-shaped patches that are usually red, itchy, and have worm-like borders. In 1910, Raymond Jacques Adrien Sabouraud, a French dermatologist, was the first to report the morphologic characteristics of dermatophytes. During the decades that followed, taxonomy of dermatophytes has gone through revolutionary changes, mostly due to the advent of molecular diagnosis. Although studies performed in the 21st century have resulted in further classification changes and

Sources

- Borman AM, Summerbell RC. *Trichophyton, Microsporum, Epidermophyton,* and agents of superficial mycoses. In: Carroll KC, Pfaller MA, Landry ML, McAdam A, Patel R, Richter SS, et al., editors. Manual of clinical microbiology. Vol. 2, 12th ed. Washington: ASM Press; 2019. p. 2208–33.
- 2. de Hoog GS, Dukik K, Monod M, Packeu A, Stubbe D, Hendrickx M, et al. Toward a novel multilocus

consolidation of new species, debates regarding the taxonomy of dermatophyte agents persist.



Figure. Photomicrograph of a guinea pig hair shaft specimen revealed ultrastructural features exhibited at the site of a ringworm infection by the dermatophyte, *Trichophyton mentagrophytes.* Note that the sporangia were confined to the outer region of the hair shaft, known as an exothrix infection. Original magnification ×430. CDC/Dr. Lucille K. Georg, 1968.

phylogenetic taxonomy for the dermatophytes. Mycopathologia. 2017;182:5–31. https://doi.org/ 10.1007/s11046-016-0073-9

- 3. Sabouraud R. The moths [in French]. Paris: Masson; 1910.
- Whittaker RH. New concepts of kingdoms or organisms. Evolutionary relations are better represented by new classifications than by the traditional two kingdoms. Science. 1969;163:150–60. https://doi.org/10.1126/science.163.3863.150

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