

Abstract

This work focuses on the *Trichophyton simii* complex, which belongs to the family *Arthrodermataceae*. Its aim is to summarize the available knowledge about the genetically closely related representatives of this complex. Dermatophytes are pathogenic fungi that cause superficial mycoses in humans and animals. Current taxonomy of the *T. simii* complex recognizes three main anthropophilic and zoophilic species: *T. quinckeanum*, *T. schoenleinii* and *T. simii*, along with several other species of ambiguous status. Despite their ecological and morphological differences, distinguishing between these species using molecular methods is not straightforward due to their close genetic relationship. This work reviews the historical development of dermatophyte systematics, the current taxonomy of the *T. simii* complex, its ecology, and geographic distribution. It also addresses the characteristics of the individual species within the complex, differences between them, and methods for their identification. Additionally, the work includes an overview of known biochemical, physiological, and phenotypic differences between the species, including genetic distinctions at the level of specific genes. The goal of this work is to provide a comprehensive overview of the current knowledge about this relatively underexplored complex of human and animal pathogens.

Keywords: *T. simii* complex, dermatophytes, taxonomy, genetic differences, molecular identification, pathogenicity