

Malassezia, a Basidiomycete : Human’s symbiosis Marvels of Fungi 2

Malassezia is yeast like single celled fungus and reproduces by budding. Under certain cultural conditions, it shows filamentous growth. The Basidiomycetous nature has been determined by phylogenic studies using ribosomal RNA gene sequence analysis. No teleomorphic stage of the life cycle has been found so far. Physiologic and molecular methods have established 13 species of the genus. Collectively, all the species formed a separate clade (Malasseziales) within the class Ustilaginomycetes. The species commonly known is *M.globosa*. Presence of Malassezian species on human skin has been shown in Fig.1.

Human Skin Fungal Diversity

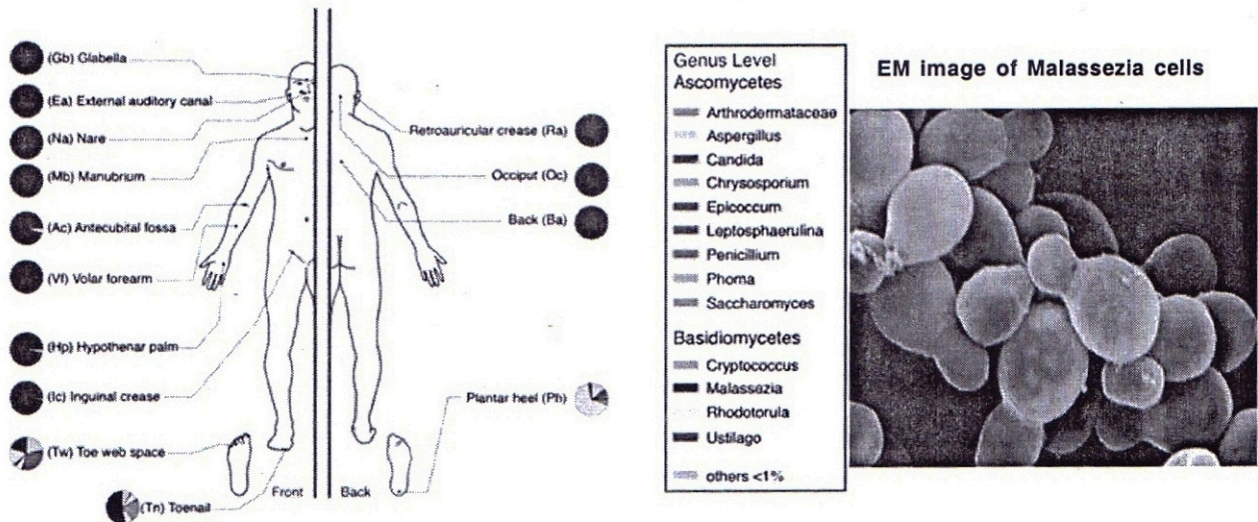


Fig.1. Image drawn from NIH Directors Blog (*Yes, It's True: There's Fungus Among Us*) posted by Dr. Francis Collins (Credit: Darryl Leja and Julia Fekecs, National Human Genome Research Institute, NIH).

The result shows that the genus *Malassezia*, which may also cause dandruff, is the most abundant type of fungus, at all 11 core-body and arm sites having sebaceous glands because it is a lipid loving fungus. These areas include the inner elbow, palm, space between the eyebrows, back of the head, nostril and forearm, among other spots. Core-body sites, such as the chest and abdomen, had the fewest types of fungi, ranging from two to 10 genera. The normal skin fungi are beneficial to us as they provide immunity of our skin, but under immunodeficient condition they may also cause or exacerbate several skin diseases, caused by *Tinea versicolor*, *Pityrosporum folliculitis*, and *seborrheic dermatitis*. Topical antifungal drugs, especially ketoconazoles are the mainstay of treating *Malassezia*-related diseases. Presence of large number of bacteria and fungi especially yeasts has been discovered and the gut microbiota of man are specific for an individual like fingerprints. Whether the surface microbiota, especially the mycota is individual specific or not warrants research.

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