

Talaromyces marneffi [t læ' ɔ məɪs ɪz mə:nɛɪ']

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Talaromyces marneffi (formerly *Penicillium marneffi*) is a thermally dimorphic fungus that causes talaromycosis, which was previously called penicilliosis. The genus name *Talaromyces* is derived from the Greek words *tálaros* (basket) and *múkēs* (mushroom). Talaros aptly describes the ascocarp known as a gymnothecium (composed of fine woven hyphae) in which asci are formed. Asexual stages of *Talaromyces* species were previously known as the species *Penicillium* of the subgenus *Biverticillium*. Capponi and Sureau isolated the fungus at Institute Pasteur de Dalat in Vietnam in 1955 from Chinese bamboo rats (*Rhizomys sinensis*). In 1959, Gabriel Segretain, after an accidental finger prick with a needle containing the yeast cells, described the fungus as a new species, naming it *Penicillium marneffi* in honor

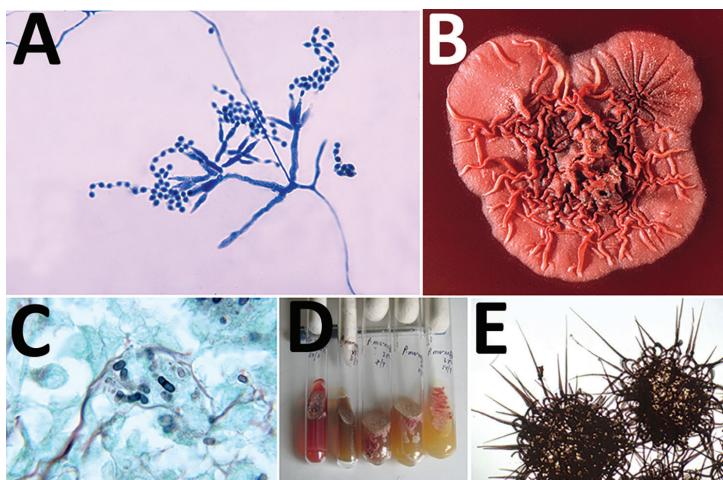
of Hubert Marneffe (1901–1970), the Director of the Institute in Indochina.

Talaromycosis affects persons who live in or visit Southeast Asia, southern China, or northeastern India, and are immunocompromised because of HIV/AIDS, cancer, organ transplant, or adult-onset immunodeficiency syndrome. This disease occurs after inhalation of aerosolized fungal spores from the environment. Although the precise reservoir is unknown, *T. marneffi* is found in bamboo rats.



Figure 1. Hubert Marneffe (1901–1970) Source: Wikimanche, Institut Pasteur, public domain.

Figure 2. A) Ultrastructural morphology of *Talaromyces marneffi*, including chains of single-celled, teardrop-shaped conidia, each originating from its respective, flask-shaped phialide. Source: Libero Ajello, Centers for Disease Control and Prevention (<https://phil.cdc.gov/Details.aspx?pid=4240>). B) Superior (front) view of a petri dish culture plate on which a wrinkled colony of *Penicillium marneffi* has been cultivated. Source: James Gathany, Centers for Disease Control and Prevention (<https://phil.cdc.gov/Details.aspx?pid=1879>). C) Mouse testicle tissue specimen showing globe-shaped yeast cells of *T. marneffi* undergoing multiplication by binary fission not by mitosis (methenamine silver stain). Source: Libero Ajello, Centers for Disease Control and Prevention (<https://phil.cdc.gov/Details.aspx?pid=4235>); D) Gradual conversion of mycelial phase of *T. marneffi* (growth at 25°C) to yeast phase on brain heart infusion agar after incubation at 37°C. Mycelial phase (first tube marked 25°C) shows diffusible red pigment. Source: Monika Mahajan, Postgraduate Institute of Medical Education and Research, Chandigarh, India; E) Loose network of hyphae of *T. marneffi* forming gymnothecium that contains asci. Source: <https://istudy.pk/ascomycota-fruit-bodies/>.



Sources

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