

Paracoccidioides [p'a rə kok-sid''e-oi' d'ez]

Lucas Nojosa Oliveira, Patrícia de Sousa Lima

From the Greek (*para*/ παρά + *kokkis* [coccidia]), Adolpho Lutz described *Paracoccidioides* in 1908. After analysis of oral and cervical lymph node lesions from infected patients, Lutz initially believed that he had detected *Coccidioides*. However, more extensive analysis showed that he had detected another fungus. Because of morphological and clinical disease similarities, the name *Paracoccidioides* was suggested. The prefix *para* (near) indicates its similarity with *Coccidioides*.

Paracoccidioides is a thermally dimorphic fungus. It grows as an infective mycelium form (at 18°C–23°C) or a parasitic multibudding yeast form (at 35°C–37°C). It is composed of 2 species:



Figure 1. Adolfo Lutz (1855–1940). Unknown author, Wikimedia Commons.

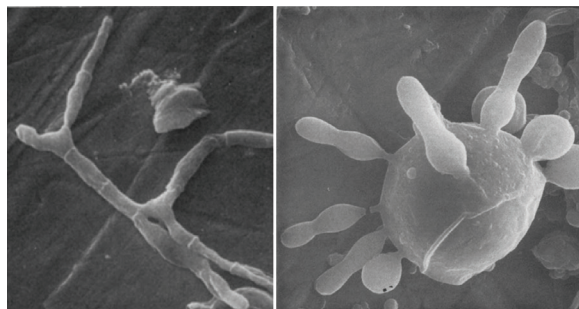


Figure 2. *Paracoccidioides brasiliensis* mycelium cells (left) and multibudding yeasts (right) by scanning electron microscopy. Original magnifications $\times 1,500$ for the left panel and $\times 3,000$ for the right panel. Image adapted from Vieira e Silva et al. 1974.

P. brasiliensis and *P. lutzii*. They are the etiologic agents of paracoccidioidomycosis. This systemic infection is endemic to Latin America (southern Mexico to northern Argentina). The highest number of cases are found in Brazil, Colombia, and Venezuela. *Paracoccidioides* conidia and mycelia are found in soil and transmitted by inhalation.

Sources

1. Bocca AL, Amaral AC, Teixeira MM, Sato PK, Shikanai-Yasuda MA, Soares Felipe MS. Paracoccidioidomycosis: eco-epidemiology, taxonomy and clinical and therapeutic issues. *Future Microbiol.* 2013;8:1177–91. <https://doi.org/10.2217/fmb.13.68>
2. Chaves AF, Navarro MV, de Barros YN, Silva RS, Xander P, Batista WL. Updates in *Paracoccidioides* biology and genetic advances in fungus manipulation. *J Fungi (Basel)*. 2021;7:116. <https://doi.org/10.3390/jof7020116>
3. Lutz A. A pseudococcidic mycose located in the mouth and observed in Brazil: contribution to the knowledge of American hypoblatomycoses [in Portuguese]. *Revista Semanal de Medicina e Cirurgia*. 1908;22:121–4.
4. Turland NJ, Wiersema JH, Barrie FR, Greuter W, Hawksworth DL, Herendeen PS, et al., editors. International code of nomenclature for algae, fungi, and plants (Shenzhen code) adopted by the Nineteenth International Botanical Congress Shenzhen, China, July 2017. *Regnum Vegetabile* 159. Glashütten (Germany): Koeltz Botanical Books; 2018 [cited 2021 May 17]. <https://www.iapt-taxon.org/nomen/pages/intro/citation.html>
5. Vieira e Silva CR, de Mattos MC, Fujimore K. Scanning electron microscopy of *Paracoccidioides brasiliensis*. Study with and without pre-treatment with pooled sera from patients with 'South American blastomycosis'. *Mycopathol Mycol Appl.* 1974;54:235–51.

Address for correspondence: Lucas Nojosa Oliveira, Faculdade Estácio de Sá de Goiás, Avenida Goiás 2151, Setor Central, Goiânia, Goiás, CEP 74063-010, Brazil; email: nojosalucas@gmail.com

DOI: <https://doi.org/10.3201/eid2709.210461>