Rhodotorula ngohengohe
**Fungal Planet description sheets**

© 2017 Naturalis Biodiversity Center & Westerdijk Fungal Biodiversity Institute

---

**Rhodotorula ngohengohe** Padamsee, B.S. Weir, Petterson & P.K. Buchanan, *sp. nov.*

*Etymology.* The specific epithet ‘ngohengohe’ (Māori), referring to ‘be humble, agreeable.’ Students who discovered this new species are from Te Kura Kaupapa Māori o Kaikohe, and chose ngohengohe for this species from their school motto E re, Kia koi, Kia ngohengohe = Fly, Be on to it. Be humble in your successes (pronounced ngohe-ngohe).

Classification — *Sporidiobolaceae*, *Sporidiobolales*, *Microbotryomycetes*, *Pucciniomycotina*.

On Yeast extract Malt agar (YM), after 9 d at 22 °C, colony is flat, pink, moist and glistening, with a curved margin. After 5 d growth at 22 °C in YM broth, cells are mostly ellipsoidal and occasionally oval, (4.5–)6.5–8(–9) × 3–4.5(–5.5) µm (av. 7 × 3.8 µm), occurring singly, in clusters, and proliferating by budding. Dalmau plate culture after 10 d was pink with an entire margin. Fermentation and assimilation of carbon compounds — see MycoBank MB819394.

**Typus.** NEW ZEALAND, Northland, Kaikohe water catchment, on bird feather surface, 12 Feb. 2016 (holotype PDD 105305, culture ex-type ICMP 22106, ITS and LSU sequences GenBank KY285005 and KY285006, MycoBank MB819394).

Notes — This study began as a project to raise awareness of fungal diversity and function among New Zealand school students and teachers. Mycologists at Landcare Research assisted 18 students (13–14 yr) at Te Kura Kaupapa Māori o Kaikohe, Kaikohe, Northland to collect and identify fungi in a native forest of the nearby water catchment. The students’ challenge was to discover and describe a fungal species new to science. Students prepared cultures from swabs of the surface of collected specimens; colonies arising were subcultured and sequenced. Students then observed the process to differentiate and publish a new species, and collectively chose the name for the species epithet. The students involved in this project are as follows: Jayson Gotz-Edmonds, Kahurangi Hauraki, Awhina Herewini Hona, Temepara Hitia, Sean Kaka, Sione Kata, Te Ao Kohatu Kaukau-Troughton, Niki Lawrence, Shaden Marsh, Kahurangi Maxwell, Te Painga Osborne, Reiata Phillips Heihei, Tawauwau Rakete, Tasha Richards, Romeo Tau-Ashby, Vincent Tau-Roberts, Mikaira Te Haara, Monique Terei.

Phylogenetic analyses using an alignment of concatenated sequences of the nuclear large subunit and the internal transcribed spacer regions show that ICMP 22106 represents a novel yeast species and is sister to *Rhodotorula evergladiensis*. Physiological profiles further support the separation of the new species as distinct from *R. evergladiensis* and *R. kratochvilovae*. The new species can be distinguished from *R. evergladiensis* by its ability to assimilate D-arabinose, L-arabinose, and D-ribose as well as its ability to use nitrate as a nitrogen source. The new species can be distinguished from *R. kratochvilovae* by its inability to assimilate D-raffinose, its ability to assimilate xylitol, and its weak growth in 10 % NaCl. All supplementary data including assimilation tests and sequence alignments are available at doi:10.7931/J2XW4GQT, specimen and strain data are available at [https://scd.landcareresearch.co.nz](https://scd.landcareresearch.co.nz).

---

Bayesian inference phylogenetic tree of concatenated ITS and LSU sequences using MrBayes v. 3.2.6, showing the relationship of *Rhodotorula ngohengohe* to closely related species. The novel species is indicated in **bold**. All strains are ex-type.

---

**Colour illustrations.** Students from Te Kura Kaupapa Māori o Kaikohe returning from fungal collecting in Kaikohe water catchment forest, Kaikohe, New Zealand; overlooking town of Kaikohe; light micrographs of *Rhodotorula ngohengohe* budding cells in YM broth. Scale bar = 10 µm.