

Supplementary Materials:

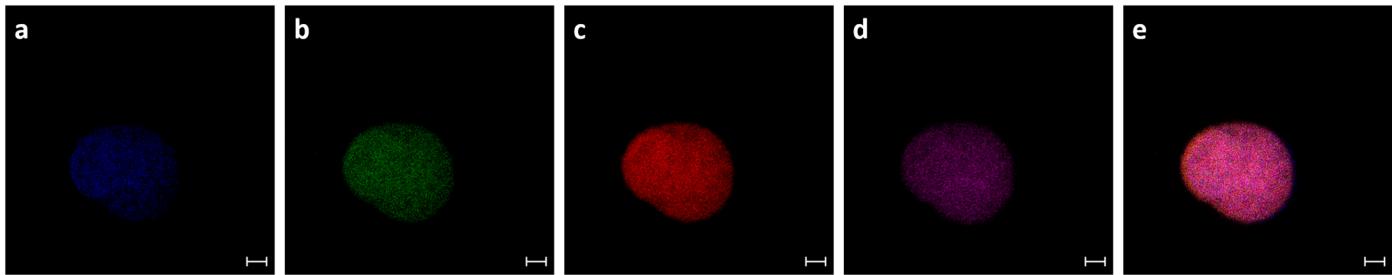


Figure S1: Confocal autofluorescence images of a multinucleated cell at various wavelengths. Blue (a), green (b), red (c), and far-red (d). (e) Merged image of four channels. Scale bars: 10 μ m.

Table S1: Estimates of Evolutionary Divergence between Sequences. The number of base substitutions per site from between 15 sequences are shown (There were a total of 1861 positions in the final dataset. All ambiguous positions were removed for each sequence pair).

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----|----|----|----|
| Thraustochytrid sp. BSH | 0.000 | | | | | | | | | | | | | | |
| AF257314.2 Thraustochytriidae sp. BS1 | 0.002 | 0.000 | | | | | | | | | | | | | |
| AF257315.2 Thraustochytriidae sp. BS2 | 0.000 | 0.002 | 0.000 | | | | | | | | | | | | |
| DQ641042.1 Thraustochytriidae sp. BS3 | 0.184 | 0.188 | 0.188 | 0.000 | | | | | | | | | | | |
| DQ641043.1 Thraustochytriidae sp. BS4 | 0.255 | 0.260 | 0.260 | 0.266 | 0.000 | | | | | | | | | | |
| DQ641040.1 Thraustochytriidae sp. BS5 | 0.209 | 0.213 | 0.213 | 0.015 | 0.273 | 0.000 | | | | | | | | | |
| DQ641041.1 Thraustochytriidae sp. BS6 | 0.255 | 0.260 | 0.260 | 0.266 | 0.000 | 0.273 | 0.000 | | | | | | | | |
| JX457319.2 Thraustochytriidae sp. KB8 | 0.209 | 0.208 | 0.205 | 0.342 | 0.166 | 0.351 | 0.166 | 0.000 | | | | | | | |
| KM196563.1 Thraustochytriidae sp. NK58 | 0.167 | 0.170 | 0.166 | 0.313 | 0.251 | 0.336 | 0.251 | 0.251 | 0.000 | | | | | | |
| KP985064.1 Thraustochytriidae sp. NK55 | 0.366 | 0.364 | 0.357 | 0.319 | 0.028 | 0.329 | 0.028 | 0.251 | 0.436 | 0.000 | | | | | |
| OP522395.1 Thraustochytriaceae sp. isolate MCPX | 0.159 | 0.159 | 0.158 | 0.253 | 0.303 | 0.289 | 0.303 | 0.249 | 0.196 | 0.492 | 0.000 | | | | |

| | | | | | | | | | | | | | | | |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| AF155209.1 Labyrinthulid quahog parasite QPX | 0.196 | 0.199 | 0.194 | 0.227 | 0.272 | 0.239 | 0.272 | 0.231 | 0.220 | 0.357 | 0.227 | 0.000 | | | |
| KX965676.1 Mucocytrium quahogii isolate NY-PB-070348D clone 2 | 0.197 | 0.200 | 0.195 | 0.228 | 0.273 | 0.240 | 0.273 | 0.231 | 0.221 | 0.350 | 0.227 | 0.001 | 0.000 | | |
| DQ641204.1 Labyrinthulid quahog parasite QPX isolate NY0313808CC1 | 0.197 | 0.200 | 0.195 | 0.227 | 0.272 | 0.239 | 0.272 | 0.232 | 0.221 | 0.349 | 0.229 | 0.001 | 0.000 | 0.000 | |
| AB973525.1 Thraustochytrium aff. pachydermum SEK 682 | 0.232 | 0.233 | 0.230 | 0.277 | 0.292 | 0.276 | 0.292 | 0.231 | 0.276 | 0.438 | 0.257 | 0.155 | 0.156 | 0.156 | 0.000 |