

**Supplementary Table 5:** Most influential fungal OTUs distinguishing between wild and captive kiwi samples listed by highest contributing OTU in descending order. Two fungal OTUs significantly account for over 70% of the differences between captivity status. OTUs that contributed to less than 1% significance were removed. A p-value was calculated per OTU, in addition to false discovery rate (FDR) adjusted p-value. Mean abundance and standard deviation of each OTU is listed between groups.

| OTU    | Taxonomic level | Taxa                       | Percent total contribution | p-value     | FDR adjusted p-value | Wild mean abundance | Wild standard deviation | Captive mean abundance | Captive standard deviation |
|--------|-----------------|----------------------------|----------------------------|-------------|----------------------|---------------------|-------------------------|------------------------|----------------------------|
| OTU159 | genus           | <i>Rhizopogon luteolus</i> | 0.174474915                | 0.003289986 | 0.023029899          | 0.289177443         | 0.440625708             | 0                      | 0                          |
| OTU37  | species         | <i>Saitozyma podzolica</i> | 0.059634377                | 0.000613432 | 0.008588045          | 0.118427688         | 0.183853323             | 0                      | 0                          |