**Supplementary Table 8. Odds ratios (ratio between the observed and the randomly expected frequency) of HKRRHK2 genes located in the genome next to RR2 genes.** Only species with HKRRHK2 proteins are taken into account in the percentages. Phyla without this type of protein (Aquificae, Armatimonadetes, Chlorobi, Caldiserica, Chlamydiae, Lentisphaerae, Chloroflexi, Chrysiogenetes, Deferribacteres, Dictyoglomi, Elusimicrobia, Fibrobacteres, Fusobacteria, Gemmatimonadetes, Nitrospinae, Nitrospirae, Planctomycetes, Epsilonproteobacteria, Zetaproteobacteria, Synergistetes, Tenericutes, Thermodesulfobacteria, Thermotogae, Crenarchaeota, Thaumarchaeota, Alveolates, Amoeboflagellate, Euglenozoa, Microsporidians and Monocots) do not appear in the table. Eukaryotic phyla with HKRRHK2 genes are not included in this statistics because none of those HKRRHK2 genes have been found neighboring an RR gene. Phylum abbreviations are given in Table 1.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Phylum | % of species with 2<odds ratio<10 | % of species with 10<odds ratio<50 | % of species with 50<odds ratio<100 | % of species with odds ratio>100 |
| At | 0.00 | 0.00 | 0.00 | 25.00 |
| Ba | 0.00 | 25.00 | 0.00 | 0.00 |
| V | 0.00 | 50.00 | 0.00 | 0.00 |
| Cy | 0.00 | 38.89 | 0.00 | 0.00 |
| Dt | 0.00 | 0.00 | 33.33 | 0.00 |
| Ac | 0.00 | 33.33 | 0.00 | 0.00 |
| Fi | 1.64 | 37.70 | 44.26 | 0.00 |
| A | 0.00 | 55.56 | 0.00 | 0.00 |
| B | 0.00 | 22.22 | 22.22 | 0.00 |
| D | 0.00 | 8.33 | 0.00 | 0.00 |
| G | 0.00 | 17.86 | 3.57 | 32.14 |
| S | 0.00 | 3.49 | 0.00 | 0.00 |
| Eu | 0.00 | 0.00 | 0.00 | 0.00 |