# **Holobiont dysbiosis or acclimatization? Shift in the microbial taxonomic diversity and functional composition of a cosmopolitan sponge subjected to chronic pollution in a Patagonian Bay**

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**Supplemental Table S2:** Summary table of the *Hymeniacidon perlevis* sequences used for phylogenetic analyses. \* indicate haplotype sequences used in the analyses. CTL, PV and SAO indicate sites with low, medium and high pollution impact.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| nickname/code | GenBank sequences code | Organisms as named in GenBank | gene | R primer | F primer | collection locality | study |
| H. perlevis-PV\* | MZ297337 | *Hymeniacidon perlevis* | COI | LCOm13 | HCO | SAB | This study |
| H. perlevis-CTL\* | MZ297339 | *Hymeniacidon perlevis* | COI | LCOm13 | HCO | SAB | This study |
| H. perlevis-PV\* | MZ297338 | *Hymeniacidon perlevis* | COI | LCOm13 | HCO | SAB | This study |
| H. perlevis-CTL | MZ297340 | *Hymeniacidon perlevis* | COI | LCOm13 | HCO | SAB | This study |
| H. perlevis-SAO | MZ297344 | *Hymeniacidon perlevis* | COI | LCOm13 | HCO | SAB | This study |
| H. perlevis-PV | MZ297349 | *Hymeniacidon perlevis* | COI | LCOm13 | HCO | SAB | This study |
| H. perlevis-SAO | MZ297351 | *Hymeniacidon perlevis* | COI | LCOm13 | HCO | SAB | This study |
| H. perlevis-SAO | MZ297353 | *Hymeniacidon perlevis* | COI | LCOm13 | HCO | SAB | This study |
| H. perlevis-SAO | MZ297354 | *Hymeniacidon perlevis* | COI | LCOm13 | HCO | SAB | This study |
| H. perlevis-CTL\* | MZ297341 | *Hymeniacidon perlevis* | COI | LCOm13 | HCO | SAB | This study |
| H. perlevis-SAO | MZ297345 | *Hymeniacidon perlevis* | COI | LCOm13 | HCO | SAB | This study |
| H. perlevis-PV | MZ297348 | *Hymeniacidon perlevis* | COI | LCOm13 | HCO | SAB | This study |
| H. perlevis-SAO | MZ297352 | *Hymeniacidon perlevis* | COI | LCOm13 | HCO | SAB | This study |
| H. perlevis-SAO\* | MZ297346 | *Hymeniacidon perlevis* | COI | LCOm13 | HCO | SAB | This study |
| H. perlevis-SAO | MZ297347 | *Hymeniacidon perlevis* | COI | LCOm13 | HCO | SAB | This study |
| H. flavia \* | EF217335.1 | *Hymeniacidon flavia* | COI |  |  | Korea | Park et al. 2007 |
| H. flavia \* | EF217334.1 | *Hymeniacidon flavia* | COI |  |  | Korea | Park et al. 2007 |
| H. flavia | EF217333.1 | *Hymeniacidon flavia* | COI |  |  | Korea | Park et al. 2007 |
| H. heliophila \* | EF519630.1 | *Hymeniacidon heliophila* | COI |  |  | Caribbean | Erpenbeck et al. 2008 |
| H. heliophila | EF519631 | *Hymeniacidon heliophila* | COI |  |  | Caribbean | Erpenbeck et al. 2008 |
| H. perlevis \* | MG885805.1 | *Hymeniacidon perlevis* | COI |  |  | SAB | Gastaldi et al. 2018 |
| H. perlevis | MG885804.1 | *Hymeniacidon perlevis* | COI |  |  | SAB | Gastaldi et al. 2018 |
| H. perlevis | MG885802.1 | *Hymeniacidon perlevis* | COI |  |  | SAB | Gastaldi et al. 2018 |
| H. perlevis | MG885803.1 | *Hymeniacidon perlevis* | COI |  |  | SAB | Gastaldi et al. 2018 |
| H. perlevis \* | HQ829181.1 | *Hymeniacidon sinapium* | COI |  |  | China | Cao H, Cao X, Xue S and Zhang W\_direct submission |
| H. perlevis \* | NH035986.1 | *Hymeniacidon sinapium* | COI |  |  | China | Cao H, Cao X, Xue S and Zhang W\_direct submission |
| H. perlevis \* | EF217332.1 | *Hymeniacidon sinapium* | COI |  |  | China | Cao H, Cao X, Xue S and Zhang W\_direct submission |
| H. perlevis \* | EF217330.1 | *Hymeniacidon sinapium* | COI |  |  | China | Cao H, Cao X, Xue S and Zhang W\_direct submission |
| H. perlevis-SAO\* | MZ298279 | *Hymeniacidon perlevis* | 18S | 1080R | 18saFm13 | SAB | This study |
| H. perlevis-PV\* | MZ298269 | *Hymeniacidon perlevis* | 18S | 1080R | 18saFm13 | SAB | This study |
| H. perlevis-CTL | MZ298271 | *Hymeniacidon perlevis* | 18S | 1080R | 18saFm13 | SAB | This study |
| H. perlevis-SAO | MZ298276 | *Hymeniacidon perlevis* | 18S | 1080R | 18saFm13 | SAB | This study |
| H. perlevis-SAO | MZ298283 | *Hymeniacidon perlevis* | 18S | 1080R | 18saFm13 | SAB | This study |
| H. perlevis-PV\* | MZ298268 | *Hymeniacidon perlevis* | 18S | 1080R | 18saFm13 | SAB | This study |
| H. perlevis-CTL | MZ298273 | *Hymeniacidon perlevis* | 18S | 1080R | 18saFm13 | SAB | This study |
| H. perlevis-CTL | MZ298275 | *Hymeniacidon perlevis* | 18S | 1080R | 18saFm13 | SAB | This study |
| H. perlevis-SAO | MZ298277 | *Hymeniacidon perlevis* | 18S | 1080R | 18saFm13 | SAB | This study |
| H. perlevis-SAO | MZ298280 | *Hymeniacidon perlevis* | 18S | 1080R | 18saFm13 | SAB | This study |
| H. perlevis-PV | MZ298281 | *Hymeniacidon perlevis* | 18S | 1080R | 18saFm13 | SAB | This study |
| H. perlevis-PV\* | MZ298270 | *Hymeniacidon perlevis* | 18S | 1080R | 18saFm13 | SAB | This study |
| H. perlevis-CTL | MZ298272 | *Hymeniacidon perlevis* | 18S | 1080R | 18saFm13 | SAB | This study |
| H. perlevis-CTL | MZ298274 | *Hymeniacidon perlevis* | 18S | 1080R | 18saFm13 | SAB | This study |
| H. perlevis-SAO | MZ298278 | *Hymeniacidon perlevis* | 18S | 1080R | 18saFm13 | SAB | This study |
| H. perlevis-PV | MZ298282 | *Hymeniacidon perlevis* | 18S | 1080R | 18saFm13 | SAB | This study |
| H. perlevis-SAO | MZ298284 | *Hymeniacidon perlevis* | 18S | 1080R | 18saFm13 | SAB | This study |
| H. perlevis-SAO | MZ298285 | *Hymeniacidon perlevis* | 18S | 1080R | 18saFm13 | SAB | This study |
| H. perlevis-SAO | MZ298286 | *Hymeniacidon perlevis* | 18S | 1080R | 18saFm13 | SAB | This study |
| H. perlevis-SAO | MZ298287 | *Hymeniacidon perlevis* | 18S | 1080R | 18saFm13 | SAB | This study |
| H. perlevis \* | MG888753.1 | *Hymeniacidon perlevis* | 18S |  |  | SAB | Gastaldi et al. 2018 |
| H. perlevis \* | MG888750.1 | *Hymeniacidon perlevis* | 18S |  |  | SAB | Gastaldi et al. 2018 |
| H. perlevis \* | MG888745.1 | *Hymeniacidon perlevis* | 18S |  |  | SAB | Gastaldi et al. 2018 |
| H. perlevis \* | MG888744.1 | *Hymeniacidon perlevis* | 18S |  |  | SAB | Gastaldi et al. 2018 |
| H. perlevis \* | MG888743.1 | *Hymeniacidon perlevis* | 18S |  |  | SAB | Gastaldi et al. 2018 |
| H. perlevis \* | MG888742.1 | *Hymeniacidon perlevis* | 18S |  |  | SAB | Gastaldi et al. 2018 |
| H. perlevis \* | MG888741.1 | *Hymeniacidon perlevis* | 18S |  |  | SAB | Gastaldi et al. 2018 |
| H. perlevis \* | MG888738.1 | *Hymeniacidon perlevis* | 18S |  |  | SAB | Gastaldi et al. 2018 |
| H. perlevis \* | MG888736.1 | *Hymeniacidon perlevis* | 18S |  |  | SAB | Gastaldi et al. 2018 |
| H. perlevis | MG888752.1 | *Hymeniacidon perlevis* | 18S |  |  | SAB | Gastaldi et al. 2018 |
| H. perlevis | MG888751.1 | *Hymeniacidon perlevis* | 18S |  |  | SAB | Gastaldi et al. 2018 |
| H. perlevis | MG888749.1 | *Hymeniacidon perlevis* | 18S |  |  | SAB | Gastaldi et al. 2018 |
| H. perlevis | MG888747.1 | *Hymeniacidon perlevis* | 18S |  |  | SAB | Gastaldi et al. 2018 |
| H. perlevis | MG888746.1 | *Hymeniacidon perlevis* | 18S |  |  | SAB | Gastaldi et al. 2018 |
| H. perlevis | MG888748.1 | *Hymeniacidon perlevis* | 18S |  |  | SAB | Gastaldi et al. 2018 |
| H. perlevis | MG888740.1 | *Hymeniacidon perlevis* | 18S |  |  | SAB | Gastaldi et al. 2018 |
| H. perlevis | MG888739.1 | *Hymeniacidon perlevis* | 18S |  |  | SAB | Gastaldi et al. 2018 |
| H. perlevis | MG888737.1 | *Hymeniacidon perlevis* | 18S |  |  | SAB | Gastaldi et al. 2018 |
| H. perlevis | MG888735.1 | *Hymeniacidon perlevis* | 18S |  |  | SAB | Gastaldi et al. 2018 |
| Halichondria sp. \* | MG888754.1 | *Halichondria sp.* | 18S |  |  | SAB | Gastaldi et al. 2018 |
| H. caerulea \* | KC902377.1 | *Hymeniacidon caerulea* | 18S |  |  | Panama | Redmon et al. 2013 |
| H. perlevis \* | KC902358.1 | *Hymeniacidon perlevis* | 18S |  |  | Ireland | Redmon et al. 2013 |
| H. perlevis-CTL\* | MZ435931 | *Hymeniacidon perlevis* | ITS2 | ITS2R | ITSFm13 | SAB | This study |
| H. perlevis-CTL\* | MZ435932 | *Hymeniacidon perlevis* | ITS2 | ITS2R | ITSFm13 | SAB | This study |
| H. perlevis-CTL\* | MZ435933 | *Hymeniacidon perlevis* | ITS2 | ITS2R | ITSFm13 | SAB | This study |
| H. perlevis-CTL\* | MZ435935 | *Hymeniacidon perlevis* | ITS2 | ITS2R | ITSFm13 | SAB | This study |
| H. perlevis-SAO\* | MZ435936 | *Hymeniacidon perlevis* | ITS2 | ITS2R | ITSFm13 | SAB | This study |
| H. perlevis-SAO\* | MZ435937 | *Hymeniacidon perlevis* | ITS2 | ITS2R | ITSFm13 | SAB | This study |
| H. perlevis-SAO\* | MZ435938 | *Hymeniacidon perlevis* | ITS2 | ITS2R | ITSFm13 | SAB | This study |
| H. perlevis-SAO\* | MZ435939 | *Hymeniacidon perlevis* | ITS2 | ITS2R | ITSFm13 | SAB | This study |
| H. perlevis-PV\* | MZ435942 | *Hymeniacidon perlevis* | ITS2 | ITS2R | ITSFm13 | SAB | This study |
| H. perlevis-PV\* | MZ435930 | *Hymeniacidon perlevis* | ITS2 | ITS2R | ITSFm13 | SAB | This study |
| H. perlevis-SAO\* | MZ435943 | *Hymeniacidon perlevis* | ITS2 | ITS2R | ITSFm13 | SAB | This study |
| H. perlevis-SAO\* | MZ435944 | *Hymeniacidon perlevis* | ITS2 | ITS2R | ITSFm13 | SAB | This study |
| H. perlevis-SAO\* | MZ435947 | *Hymeniacidon perlevis* | ITS2 | ITS2R | ITSFm13 | SAB | This study |
| H. perlevis \* | EF217361.1 | *Hymeniacidon sinapium* | ITS2 |  |  | USA | Park et al. 2007 |
| H. perlevis \* | EF217360.1 | *Hymeniacidon sinapium* | ITS2 |  |  | Korea | Park et al. 2007 |
| H. perlevis \* | EF217359.1 | *Hymeniacidon sinapium* | ITS2 |  |  | Korea | Park et al. 2007 |
| H. perlevis | EF217358.1 | *Hymeniacidon sinapium* | ITS2 |  |  | Korea | Park et al. 2007 |
| H. perlevis | EF217357.1 | *Hymeniacidon sinapium* | ITS2 |  |  | Korea | Park et al. 2007 |
| H. perlevis | EF217356.1 | *Hymeniacidon sinapium* | ITS2 |  |  | Korea | Park et al. 2007 |
| H. perlevis | EF217355.1 | *Hymeniacidon sinapium* | ITS2 |  |  | Korea | Park et al. 2007 |
| H. flavia \* | AB373185.1 | *Hymeniacidon flavia* | ITS2 |  |  | Japan | Hoshino et al. 2008 |
| H. flavia \* | AB373173.1 | *Hymeniacidon flavia* | ITS2 |  |  | Japan | Hoshino et al. 2008 |
| H. flavia | EF217364.1 | *Hymeniacidon flavia* | ITS2 |  |  | Korea | Park et al. 2007 |
| H. flavia | EF217362.1 | *Hymeniacidon flavia* | ITS2 |  |  | Korea | Park et al. 2007 |
| H. heliophila \* | AB373170.1 | *Hymeniacidon heliophila* | ITS2 |  |  | USA | Hoshino et al. 2008 |