**Table S3** The results of statistical analysis for bacteria relative abundance at the family level for wild (WS) and captive (CS) *Sacalia bealei*. Families showing significant difference between WS and CS are in bold font.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **sample** | WS1.1 | WS1.2 | WS1.3 | WS2.1 | CS1.1 | CS1.2 | CS1.3 | CS1.4 | Kolmogorov-Smirnov test *P* value | Homogeneity-Variances test  *P* value | Student’s t-test  *P* value | Wilcoxon rank-sum test  *P* value |
| unclassified Bacteroidales | 0 | 2.030603407 | 25.17884066 | 18.16636192 | 0.198890065 | 33.77602412 | 44.99727328 | 17.77499759 | 0.2 | 0.322 | 0.3079 |  |
| **Clostridiaceae** | **0.086613415** | **2.207038142** | **11.44580246** | **9.883553075** | **21.84582812** | **10.67911334** | **25.16280114** | **24.16193501** | **0.2** | **0.945** | **0.01554** |  |
| **Enterobacteriaceae** | **2.608026177** | **54.42209604** | **6.896994194** | **29.28495814** | **0.009623713** | **0.660828281** | **0.048118564** | **0.012831617** | **0.005** | **0.013** |  | **0.03038** |
| Peptostreptococcaceae | 0.381740609 | 0.497225163 | 7.77916787 | 9.854681936 | 33.07670099 | 6.072562795 | 8.824944664 | 15.71552305 | 0.1 | 0.26 | 0.1352 |  |
| **Erysipelotrichaceae** | **0** | **0.012831617** | **0.102652937** | **0.86292625** | **41.0355115** | **5.73894075** | **7.33647708** | **10.21396722** | **0.018** | **0.029** |  | **0.03038** |
| Fusobacteriaceae | 0 | 2.10E+01 | 33.71507394 | 3.01543002 | 0.381740609 | 5.665158952 | 0.035286947 | 0.455522407 | 0.013 | 0.008 |  | 0.4705 |
| Lachnospiraceae | 0 | 0.782728643 | 2.94806403 | 7.682930741 | 1.167677157 | 19.77031405 | 5.212844449 | 11.22445706 | 0.2 | 0.139 | 0.1903 |  |
| Burkholderiaceae | 31.3925512 | 0.670451994 | 0.035286947 | 5.674782664 | 0.032079043 | 0.099445 | 0.009623713 | 0.016039521 | 0.001 | 0.030 |  | 0.0606 |
| Sphingomonadaceae | 16.80941841 | 0.686491515 | 0 | 0.132 | 0 | 0 | 0.006415809 | 0.003207904 | 0 | 0.024 |  | 0.1832 |
| **Ruminococcaceae** | **0** | **0.025663234** | **0.150771501** | **1.50771501** | **0.455522407** | **5.058865043** | **3.910435313** | **5.918583389** | **0.143** | **0.163** | **0.03444** |  |
| **Moraxellaceae** | **0.619125525** | **10.5764604** | **1.584704712** | **0.11227665** | **0** | **0** | **0.003207904** | **0** | **0.001** | **0.027** |  | **0.02652** |
| Acidaminococcaceae | 0 | 0.006415809 | 0 | 2.611234081 | 0.02245533 | 0.654412472 | 0.012831617 | 7.971642126 | 0.003 | 0.111 |  | 0.1913 |
| **Streptococcaceae** | **6.216918487** | **4.019504058** | **0.012831617** | **0.3753248** | **0** | **0** | **0** | **0** | **0** | **0.002** |  | **0.02107** |
| Rhizobiales *incertae sedis* | 8.693420588 | 0.016039521 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.024 |  | 0.1859 |
| Pseudomonadaceae | 5.944246624 | 0.105860841 | 0.102652937 | 1.976069034 | 0.317582523 | 0.038494851 | 0.051326468 | 0.019247426 | 0.001 | 0.057 |  | 0.1124 |
| Hyphomicrobiaceae | 6.768678023 | 0 | 0 | 0.003207904 | 0 | 0 | 0 | 0 | 0 | 0.024 |  | 1 |

Note: All data were tested for the normality and uniformity using Kolmogorov-Smirnov Test (K-S) and Homogeneity Variances Test (H-V), respectively. If the *P* value of K-S and H-V tests were greater than 0.05, statistical analysis was performed using Student’s t-test. If the *P* value of K-S and H-V tests were less than 0.05, statistical analysis was performed using Wilcoxon rank-sum test.