**Supplementary Table S1.** Biological data of sampled wild red-billed tropicbirds (*Phaethon aethereus*) and brown boobies (*Sula leucogaster*) breeding in Abrolhos Archipelago, Brazil, and concentration of selected metals and metalloids (As - arsenic; Cu - copper; Hg - mercury), reported by Nunes et al. (2022); NI = Not Identified; NA = Not analyzed.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | |  | |  | | **Element concentrations (mg.Kg-1dry mass)\*** | | | | | | | | | | | |  | |
|  | | |  | |  | | As | | | | Cu | | | | Hg | | | |  | |
| **Seabird Sample ID** | | | **Collection date**  **(mm/yyyy)** | | **Sex** | | Blood | | Feathers | | Blood | | Feathers | | Blood | | Feathers | | Abrolhos Archipelago | |
| Red-billed tropicbirds | 44P-P7 | NI | | NI | | 0.25 | | 0.58 | | 0.27 | | 1.19 | | 0.25 | | 0.17 | | Santa Bárbara | |
| 67P-P13 | 03/2022 | | NI | | 4.06 | | 0.83 | | 10.92 | | 0.71 | | 0.33 | | 0.04 | | Siriba | |
| 71P-P17 | 03/2022 | | NI | | 3.10 | | 3.40 | | 5.36 | | 0.96 | | 0.25 | | 0.03 | | Santa Bárbara | |
| 75P-P21 | 03/2022 | | NI | | NA | | 3.90 | | NA | | 1.97 | | NA | | 0.03 | | Santa Bárbara | |
| 78P-P22 | 03/2022 | | NI | | 4.25 | | 1.49 | | 8.76 | | 0.46 | | 0.27 | | 0.02 | | Santa Bárbara | |
| 81P-P24 | 03/2022 | | NI | | 20.49 | | 4.85 | | 20.27 | | 0.16 | | 1.42 | | 0.08 | | Santa Bárbara | |
|  | 26U-S6 | 09/2021 | | Female | | 0.42 | | 0.10 | | 0.16 | | 0.24 | | 0.41 | | 0.32 | | Redonda | |
| Brown boobies | 28U-S8 | 08/2021 | | Male | | 0.80 | | 0.05 | | 0.19 | | 0.12 | | 0.93 | | 0.17 | | Redonda | |
| 29U-S9 | 08/2021 | | Male | | 0.72 | | 0.02 | | 0.38 | | 0.06 | | 1.05 | | 0.09 | | Redonda | |
| 30U-S10 | 08/2021 | | Female | | 0.38 | | 0.068 | | 0.312 | | <0.05 | | 0.42 | | 0.04 | | Redonda | |
| 66U-S14 | 03/2022 | | Male | | 1.05 | | 2.76 | | 2.09 | | 0.42 | | 0.11 | | 0.34 | | Sueste | |
| 67U-S15 | 03/2022 | | Female | | 2.05 | | 0.064 | | 2.74 | | 0.65 | | 0.28 | | 0.04 | | Sueste | |
| 68U-S16 | 03/2022 | | Male | | 2.02 | | 0.95 | | 2.61 | | 0.65 | | 0.18 | | 0.02 | | Sueste | |
| 69U-S17 | 03/2022 | | Male | | 1.64 | | 1.34 | | 0.82 | | 0.72 | | 0.28 | | 0.02 | | Sueste | |
| 70U-S18 | 03/2022 | | Female | | 3.08 | | 0.53 | | 2.32 | | 0.11 | | 0.39 | | 0.36 | | Sueste | |
| 71U-S19 | 03/2022 | | Female | | 1.48 | | 0.62 | | 1.32 | | 0.10 | | 0.34 | | 1.94 | | Sueste | |
| 72U-S20 | 03/2022 | | Female | | 1.82 | | 0.58 | | 0.50 | | 0.16 | | 0.28 | | 1.74 | | Sueste | |

**Supplementary Table S2.** Sequence of primers used to detect heavy metal resistance genes, and virulence factors tested in this study.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Gene** | **Primer** | **sequence (5' - 3')** | **bp1** | **AT2** | | **Controle** | | **Reference** |
| **Arsenic** | | | | | | | | |
| *arsA\_I* | arsA\_I F | GGCAATYGCCGCAGCAAT | 643 | 58° | | *Enterococcus faecalis* ATCC 29212 | | Rebelo et al. (2021) |
| arsA\_I R | TGATCCAGAAGCAGAGAAAAAGT |
| *arsA\_II* | arsA\_II F | GTAGAAGGTTTAGTTGTCGCCA | 728 | 62° | | *Listeria. monocytogenes* ALD11249.1 | | |
| arsA\_II R | TGTAAGTGRGGAAATTCTTTTGGT |
| **Cooper** | | | | | | | | |
| *tcrB* | tcrB F | CATCACGGTAGCTTTAAGGAGATT | 663 | 56° | | *Enterococcus faecalis* ATCC 29212 | | Hasman and Aarestrup (2002) |
| tcrB R | TTCATAGAGGACTCCGCCACCATTG |
| **Mercury** | | | | | | | | |
| *merAIII/V/VI* | merAIII/V/VI\_F | GGTTGGTAACAGAAGAAGAAAG | 270 | 54° | | *Enterococcus faecalis* ATCC 29212 | | Mannu et al. (2003) |
| merAIII/V/VI\_R | GCCATTGTTAAATATGGCTGC |
| **Collagen-binding protein** | | | | | | | | |
| *ace* | ace1 F | AAAGTAGAATTAGATCACAC | 320 | 59° | | *E. faecalis* 529 | | Mannu et al. (2003) |
| ace2 R | TCTATCACATTCGGTTGCG |
| **Cytolysin** | | | | |  | |  |  |
| *cylA* | cylA TE17 | TTCTACAGTAAATCTTTCGTCA | 517 | 59° | | *Enterococcus faecalis* ATCC 29212 | | Eaton and Gasson (2001) |
| cylA TE18 | TGGATGATAGTGATAGGAAG |
| **Gelatinase** | | | | |  | |  |  |
| *gelE* | gelE\_F | ACCCCGTATCATTGGTTT | 419 | 50° | | *E. faecalis* 529 | | Eaton and Gasson (2001) |
|  | ACGCATTGCTTTTCCATC |
| **Enterococcal-superficial protein** | | | | |  | |  |  |
| *esp* | esp46 F | TTACCAAGATGGTTCTGTAGGCCC | 913 | 60 | | *E. faecalis* 529 | | Shankar et al. (1999)  al. |
| esp49 R | CAAGTATACTTAGCATCTTTTGG |
|  |  |  |  |  | |  | |  |

1 bp (base pair);

2 AT (annealing temperature in **°**C)

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