|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No** | **Speceis** | **GenBank Accession No.** | **P-distance (%)** | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| **1** | *Ophientrema scolopendrica*01(SCS) | MZ198774 |  | 0.31% | 2.81% | 3.25% | 3.25% | 3.61% | 3.71% | 3.94% | 4.55% | 4.36% | 4.14% | 4.38% | 4.19% | 4.31% | 3.78% | 3.85% |
| **2** | *Ophientrema scolopendrica*02(SCS) | MZ198775 | 0.45% |  | 2.79% | 3.20% | 3.20% | 3.62% | 3.67% | 3.91% | 4.51% | 4.32% | 4.10% | 4.41% | 4.22% | 4.34% | 3.73% | 3.86% |
| **3** | *Ophiomitrella conferta* | HQ946174 | 26.80% | 26.46% |  | 3.04% | 3.04% | 3.54% | 3.71% | 3.71% | 3.92% | 3.63% | 3.83% | 3.97% | 3.84% | 3.95% | 4.10% | 3.82% |
| **4** | *Ophiacantha vorax*01(SCS) | MZ198765 | 30.67% | 29.96% | 29.20% |  | 0.00% | 2.96% | 3.02% | 3.86% | 3.79% | 3.41% | 3.48% | 3.61% | 3.57% | 3.69% | 3.61% | 3.35% |
| **5** | *Ophiacantha vorax*02(SCS) | MZ198766 | 30.67% | 29.96% | 29.20% | 0.00% |  | 2.96% | 3.02% | 3.86% | 3.79% | 3.41% | 3.48% | 3.61% | 3.57% | 3.69% | 3.61% | 3.35% |
| **6** | *Ophiacantha antarctica* | KU895384 | 35.13% | 35.13% | 35.33% | 28.78% | 28.78% |  | 1.90% | 3.03% | 3.11% | 2.77% | 2.90% | 2.88% | 2.77% | 2.91% | 3.89% | 3.21% |
| **7** | *Ophiacantha yaldwyni* | KU895385 | 36.95% | 36.15% | 36.53% | 28.44% | 28.44% | 12.72% |  | 3.09% | 3.46% | 3.08% | 3.05% | 3.27% | 3.08% | 3.22% | 3.69% | 3.36% |
| **8** | *Ophiurothamnus clausa* (SCS) | MZ198777 | 39.77% | 39.35% | 37.54% | 39.86% | 39.86% | 29.18% | 29.18% |  | 3.47% | 2.95% | 3.43% | 3.23% | 3.26% | 3.31% | 3.90% | 3.74% |
| **9** | *Ophioplinthaca defensor* (NP) | MT025778 | 43.24% | 42.74% | 37.13% | 35.18% | 35.18% | 27.90% | 30.25% | 31.36% |  | 1.79% | 2.18% | 2.12% | 2.05% | 2.11% | 4.76% | 4.78% |
| **10** | *Ophioplinthaca pulchra* (AUS) | KU895136 | 44.16% | 43.72% | 37.60% | 33.36% | 33.36% | 25.58% | 28.20% | 28.08% | 10.62% |  | 2.04% | 1.94% | 1.93% | 1.99% | 4.46% | 4.23% |
| **11** | *Ophioplinthaca rudis* (PNG) | KU895135 | 41.34% | 40.92% | 39.51% | 34.86% | 34.86% | 26.99% | 29.06% | 33.70% | 14.04% | 14.57% |  | 0.96% | 1.10% | 1.10% | 4.62% | 4.20% |
| **12** | *Ophioplinthaca plicata* (SCS) | MZ198773 | 42.69% | 43.12% | 40.78% | 36.85% | 36.85% | 26.68% | 30.53% | 31.90% | 13.39% | 13.20% | 4.17% |  | 0.67% | 0.71% | 4.54% | 4.05% |
| **13** | *Ophioplinthaca plicata* (TS) | EU869989 | 40.92% | 41.34% | 40.32% | 36.33% | 36.33% | 26.60% | 29.70% | 32.18% | 13.37% | 13.43% | 5.36% | 2.27% |  | 0.44% | 4.39% | 4.10% |
| **14** | *Ophioplinthaca plicata* (NZ) | KU895133 | 42.09% | 42.52% | 41.48% | 37.43% | 37.43% | 27.90% | 31.06% | 32.90% | 13.98% | 14.24% | 5.34% | 2.26% | 0.90% |  | 4.34% | 4.07% |
| **15** | *Bathypectinura heros* | KU895207 | 36.82% | 36.06% | 41.66% | 35.59% | 35.59% | 37.35% | 35.86% | 41.53% | 46.66% | 45.11% | 46.35% | 46.29% | 44.54% | 44.10% |  | 2.62% |
| **16** | *Ophiomyxa neglecta* | KU895174 | 39.01% | 39.01% | 39.96% | 33.85% | 33.85% | 30.24% | 32.48% | 40.09% | 44.89% | 43.51% | 43.72% | 42.80% | 42.75% | 42.24% | 22.50% |  |

Supplementary file 8. Family Ophiacanthidae, pairwise distance values based on 449 bp mitochondrial COI sequences, calculated using the Kimura 2-parameter method with 1,000 bootstrap replicates (Value in blue color represent Standard Error). Abbreviations: AUS = Australia, NP = North Pacific, NZ = New Zealand, PNG = Papua New Guinea, SCS = South China Sea, TS = Tasman Sea.