

Supplementary Material

300 million years apart: the extreme case of macromorphological skeletal convergence between deltoocyathids and a turbinoliid coral (Anthozoa, Scleractinia)

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Table S1. Information on published mitochondrial and nuclear data included in the phylogenies.

| Taxa | Mitochondrial | Nuclear |
|------------------------------------|----------------------|---|
| Corallimorpharia | | |
| <i>Corallimorphus profundus</i> | KP938440 | SRS5647080 |
| <i>Corynactis chilensis</i> | n.a. | SRS2598949 |
| <i>Corynactis californica</i> | KP938436 | n.a. |
| <i>Discosoma carlgreni</i> | n.a. | SRR6178977 |
| <i>Discosoma santahelenae</i> | n.a. | SRS5647184 |
| <i>Pseudocorynactis</i> sp. | KP938437 | n.a. |
| <i>Ricordea florida</i> | DQ640648 | SRS5647185 |
| <i>Ricordea yuma</i> | KP938441 | n.a. |
| <i>Rhodactis indosinensis</i> | KP938438 | n.a. |
| <i>Platyzoanthus mussoides</i> | KP938439 | n.a. |
| "Basal" | | |
| <i>Gardineria hawaiiensis</i> | MT376619 | n.a. |
| Robust | | |
| <i>Paraconotrochus antarcticus</i> | n.a. | SRS5647090 |
| <i>Solenosmilia variabilis</i> | KM609293 | n.a. |
| <i>Caryophyllia scobinosa</i> | n.a. | Seiblitz <i>et al.</i> 2022 |
| <i>Desmophyllum dianthus</i> | KX000893 | n.a. |
| <i>Desmophyllum pertusum</i> | FR821799 | Seiblitz <i>et al.</i> 2022 |
| <i>Madrepora oculata</i> | JX236041 | SRS5647086 |
| <i>Pocillopora damicornis</i> | EU400213 | SRS2598958 |
| <i>Pocillopora grandis</i> | EF526303 | n.a. |
| <i>Seriatopora hystrix</i> | EF633600 | https://refuge2020.reefgenomics.org/ |
| <i>Stylophora pistillata</i> | EU400214 | SRS2598957 |
| <i>Madracis auretenra</i> | EU400212 | n.a. |
| <i>Madracis decactis</i> | KX982259 | n.a. |
| <i>Plesiastrea versipora</i> | MH025639 | n.a. |
| <i>Colpophyllia natans</i> | DQ643833 | n.a. |
| <i>Mussa angulosa</i> | DQ643834 | n.a. |
| <i>Echinophyllia aspera</i> | MG792550 | n.a. |
| <i>Favites abdita</i> | KY094479 | n.a. |
| <i>Astrangia</i> sp. | DQ643832 | Seiblitz <i>et al.</i> 2022 |
| <i>Oculina robusta</i> | n.a. | SRS5647223 |
| <i>Oculina patagonica</i> | n.a. | SRS5647221 |
| <i>Oculina varicosa</i> | n.a. | SRS5647214 |
| <i>Meandrina meandrites</i> | n.a. | SRS5647192 |
| <i>Dendrogyra cylindrus</i> | n.a. | SRS5647199 |
| <i>Favia fragum</i> | n.a. | SRS5647191 |
| <i>Mussismilia hispida</i> | n.a. | SRS5647159 |
| <i>Montastraea cavernosa</i> | n.a. | https://refuge2020.reefgenomics.org/ |
| <i>Lobophyllia radians</i> | n.a. | https://refuge2020.reefgenomics.org/ |
| <i>Platygyra carnosa</i> | JX911333 | https://refuge2020.reefgenomics.org/ |
| <i>Platygyra sinensis</i> | n.a. | https://refuge2020.reefgenomics.org/ |
| <i>Orbicella franksi</i> | AP008976 | n.a. |
| <i>Orbicella annularis</i> | AP008974 | SRS5647196 |
| <i>Orbicella faveolata</i> | AP008978 | https://refuge2020.reefgenomics.org/ |
| Complex | | |
| <i>Enallopsammia rostrata</i> | n.a. | SRS5647233 |
| <i>Enallopsammia profunda</i> | n.a. | SRS5647087 |
| <i>Balanophyllia elegans</i> | n.a. | SRS5647217 |
| <i>Thecopsammia</i> sp. | n.a. | SRS5647088 |
| <i>Dendrophyllia</i> sp. | n.a. | https://refuge2020.reefgenomics.org/ |
| <i>Dendrophyllia cribrrosa</i> | JQ290080 | n.a. |
| <i>Dendrophyllia arbuscula</i> | KR824937 | n.a. |

| Taxa | Mitochondrial | Nuclear |
|-----------------------------------|----------------------|---|
| <i>Tubastraea coccinea</i> | KX024566 | n.a. |
| <i>Tubastraea tagusensis</i> | KX024567 | n.a. |
| <i>Eguchipsammia fistula</i> | n.a. | https://refuge2020.reefgenomics.org/ |
| <i>Duncanopsammia peltata</i> | KJ725201 | n.a. |
| <i>Turbinaria mesenterina</i> | n.a. | https://refuge2020.reefgenomics.org/ |
| <i>Goniopora columna</i> | JF825141 | https://refuge2020.reefgenomics.org/ |
| <i>Porites fontanesii</i> | MG754069 | n.a. |
| <i>Porites porites</i> | DQ643837 | n.a. |
| <i>Porites sverdrupi</i> | KU956960 | n.a. |
| <i>Porites harrisoni</i> | MG754070 | n.a. |
| <i>Porites rus</i> | LN864762 | n.a. |
| <i>Porites lutea</i> | n.a. | SRS5647078 |
| <i>Porites evermanni</i> | n.a. | SRS5647077 |
| <i>Porites lobata</i> | KU572435 | SRS5647249 |
| <i>Porites divaricata</i> | n.a. | SRS5647222 |
| <i>Porites panamensis</i> | n.a. | SRS5647218 |
| <i>Fungiacyathus stephanus</i> | JF825138 | n.a. |
| <i>Flabellum alabastrum</i> | n.a. | SRS5647157 |
| <i>Pseudosiderastrea tayami</i> | KP260633 | n.a. |
| <i>Siderastrea radians</i> | DQ643838 | n.a. |
| <i>Siderastrea siderans</i> | n.a. | SRS5647195 |
| <i>Agaricia humilis</i> | DQ643831 | n.a. |
| <i>Pavona clavus</i> | DQ643836 | n.a. |
| <i>Pavona decussata</i> | n.a. | SRS2598956 |
| <i>Agaricia lamarcki</i> | n.a. | SRS5647194 |
| <i>Fimbriaphyllia ancora</i> | JF825139 | https://refuge2020.reefgenomics.org/ |
| <i>Galaxea fascicularis</i> | KU159433 | n.a. |
| <i>Galaxea astreata</i> | n.a. | https://refuge2020.reefgenomics.org/ |
| <i>Astreopora myriophthalma</i> | KJ634272 | n.a. |
| <i>Astreopora expansa</i> | n.a. | https://refuge2020.reefgenomics.org/ |
| <i>Alveopora sp.</i> | KJ634271 | n.a. |
| <i>Alveopora japonica</i> | n.a. | PRJNA436760 |
| <i>Montipora cactus</i> | AY903296 | n.a. |
| <i>Montipora aequituberculata</i> | n.a. | https://dornsife.usc.edu/labs/carlslab/data/ |
| <i>Isopora palifera</i> | KJ634270 | n.a. |
| <i>Isopora togianensis</i> | KJ634268 | n.a. |
| <i>Anacropora matthaii</i> | AY903295 | n.a. |
| <i>Acropora millepora</i> | n.a. | https://refuge2020.reefgenomics.org/ |
| <i>Acropora muricata</i> | n.a. | SRS2598960 |
| <i>Acropora palmata</i> | n.a. | SRS5647193 |
| <i>Acropora digitifera</i> | KF448535 | https://refuge2020.reefgenomics.org/ |
| <i>Acropora hyacinthus</i> | n.a. | https://refuge2020.reefgenomics.org/ |
| <i>Acropora tenuis</i> | AF338425 | n.a. |

Either the Genbank NCBI accession number, website or references are indicated.

Reference

Seiblitiz IGL, Vaga CF, Capel KCC, Cairns SD, Stolarski J, Quattrini AM, Kitahara MV (2022) Caryophylliids (Anthozoa, Scleractinia) and mitochondrial gene order: insights from mitochondrial and nuclear phylogenomics. *Molecular Phylogenetics and Evolution* **175**, 107565. doi:10.1016/j.ympev.2022.107565