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**Supplementary figure S1.** Surface Temperature, salinity and fluorescence from CTDO during spring 2015 and autumn 2017. Dashed lines indicate boundary between the WBCS, transition zone and SECS.

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**Supplementary figure S2.** Surface salinity from thermosalinograph over the continental shelf and shelf break during spring 2015 and autumn 2017.

**Supplementary table S1: Basic statistics of planktonic cnidarian species from shelf, WBCS and SECS in the Western Tropical South Atlantic Ocean off Northeast Brazil during autumn 2017. Mean abundance (ind. 100 m−3) and standard deviation, range of non-zero abundance, frequency of occurrence (f; considering all areas).**

| **Taxa** | **Shelf** |  | **WBCS** |  | **SECS** |  | **Freq (%)** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Mean ± SD** | **Range** | **Mean ± SD** | **Range** | **Mean ± SD** | **Range** |
| **Hydromedusae** |  |  |  |  |  |  |  |
| *Aglaura hemistoma* Péron & Lesueur, 1810 | 110.9 ± 100.2 | 15.8 - 310.5 | 14.1 ± 12.8 | 0.3 - 41.5 | 28.3 ± 26.6 | 2.7 - 107.8 | 95.6 |
| *Liriope tetraphylla* (Chamisso & Eysenhardt, 1821) | 215.6 ± 236.4 | 4.1 - 770.3 | 5.5 ± 6.2 | 0.6 - 22.1 | 3.3 ± 3.6 | 1.4 - 12.9 | 84.4 |
| *Aequorea* spp. | 0.7 ± 1.5 | 3.1 - 4.1 | 1 ± 2.4 | 0.3 - 10.7 | 11.5 ± 13 | 2.1 - 38.3 | 51.1 |
| *Cytaeis* spp. | 0.6 ± 1.7 | 5.6 - 5.6 | 0.3 ± 0.5 | 0.6 - 1.4 | 0.8 ± 1.1 | 1.4 - 3 | 26.7 |
| *Solmundella bitentaculata* (Quoy & Gaimard, 1833) | 0.2 ± 0.6 | 2 - 2 | 0.4 ± 0.7 | 0.6 - 2.7 | 0.4 ± 0.6 | 1 - 1.7 | 22.2 |
| *Laodicea* sp. | 6.5 ± 15.8 | 2.3 - 53.3 | 1.4 ± 3.6 | 5.3 - 13.7 | 0 | 0 | 13.3 |
| *Annatiara affinis* (Hartlaub, 1914) | 0.2 ± 0.6 | 1.9 - 1.9 | 0.1 ± 0.3 | 0.5 - 0.9 | 0.1 ± 0.3 | 1.4 - 1.4 | 11.1 |
| *Cirrholovenia tetranema* Kramp, 1959 | 2.1 ± 4.7 | 1.7 - 15.7 | 0.1 ± 0.3 | 0.9 - 0.9 | 0 | 0 | 11.1 |
| *Proboscidactyla ornata* (McCrady, 1859) | 1 ± 2.5 | 1.7 - 8.4 | 0.2 ± 0.9 | 0.5 - 3.9 | 0.1 ± 0.3 | 1.4 - 1.4 | 11.1 |
| *Zanclea* spp. | 1.1 ± 3.4 | 11.3 - 11.3 | 0.1 ± 0.3 | 0.5 - 1.3 | 0 | 0 | 8.9 |
| *Bougainvillia platygaster* (Haeckel, 1879) | 0 | 0 | 0.1 ± 0.2 | 0.5 - 0.8 | 0 | 0 | 6.7 |
| *Clytia* spp. | 0.6 ± 1.7 | 5.6 - 5.6 | 0.1 ± 0.3 | 1.3 - 1.3 | 0.1 ± 0.5 | 2.1 - 2.1 | 6.7 |
| *Cunina octonaria* McCrady, 1859 | 21.4 ± 59.1 | 2.4 - 198.2 | 0 | 0 | 0 | 0 | 6.7 |
| *Amphinema* spp. | 0.7 ± 1.3 | 3.1 - 3.5 | 0 | 0 | 0 | 0 | 4.4 |
| *Bougainvillia muscus* (Allman, 1863) | 0 | 0 | 0.1 ± 0.1 | 0.5 - 0.5 | 0 | 0 | 4.4 |
| *Cnidocodon leopoldi* Bouillon, 1978 | 1.1 ± 3.4 | 11.2 - 11.2 | 0.1 ± 0.1 | 0.5 - 0.5 | 0 | 0 | 4.4 |
| Eirenidae spp. | 2.1 ± 6.3 | 20.9 - 20.9 | 0 | 0 | 0.1 ± 0.3 | 1.1 - 1.1 | 4.4 |
| *Hydractynia* sp. | 0 | 0 | 0.1 ± 0.2 | 0.5 - 0.6 | 0 | 0 | 4.4 |
| *Pegantha triloba* Haeckel, 1879 | 0 | 0 | 0.1 ± 0.4 | 1 - 1.7 | 0 | 0 | 4.4 |
| *Porpita porpita* (Linnaeus, 1758) | 0 | 0 | 0.1 ± 0.2 | 0.3 - 0.7 | 0 | 0 | 4.4 |
| *Rhopalonema velatum* Gegenbaur, 1857 | 0.4 ± 1.4 | 4.5 - 4.5 | 0 | 0 | 0.1 ± 0.4 | 1.4 - 1.4 | 4.4 |
| Anthomedusae sp.4 | 0 | 0 | 0.1 ± 0.1 | 0.5 - 0.5 | 0 | 0 | 2.2 |
| Anthomedusae sp.5 | 0 | 0 | 0.2 ± 0.3 | 1.2 - 1.2 | 0 | 0 | 2.2 |
| *Corymorpha gracilis* (Brooks, 1883) | 0.6 ± 1.9 | 6.5 - 6.5 | 0 | 0 | 0 | 0 | 2.2 |
| *Pegantha rubiginosa* (Kölliker, 1853) | 0 | 0 | 0 | 0 | 0.1 ± 0.3 | 1.1 - 1.1 | 2.2 |
| Cf. *Pelagohydra* sp. | 0 | 0 | 0.1 ± 0.3 | 1.2 - 1.2 | 0 | 0 | 2.2 |
| Rhopalonematidae sp. | 0 | 0 | 0.1 ± 0.2 | 0.9 - 0.9 | 0 | 0 | 2.2 |
| *Tetracanna octonema* Goy, 1979 | 0.2 ± 0.5 | 1.7 - 1.7 | 0 | 0 | 0 | 0 | 2.2 |
| *Velella velella* (Linnaeus, 1758) | 0.2 ± 0.6 | 2 - 2 | 0 | 0 | 0 | 0 | 2.2 |
|  |  |  |  |  |  |  |  |
| **Siphonophores** |  |  |  |  |  |  |  |
| *Abylopsis eschscholtzii* (Huxley, 1859) | 9 ± 5.4 | 2.2 - 19.1 | 5.3 ± 5.6 | 0.5 - 19.2 | 30.6 ± 17.4 | 5.4 - 67.6 | 95.6 |
| *Bassia bassensis* (Quoy & Gaimard, 1833) | 10 ± 8.4 | 2.8 - 26.5 | 7.9 ± 6.4 | 2.5 - 26 | 55 ± 34.2 | 8.2 - 154.9 | 95.6 |
| *Chelophyes appendiculata* (Eschscholtz, 1829) | 41.8 ± 37.1 | 6.3 - 98.1 | 18.6 ± 13.5 | 3.6 - 55.9 | 9.5 ± 8.9 | 1.4 - 35 | 93.3 |
| *Diphyes bojani* (Eschscholtz, 1825) | 19.4 ± 30.6 | 3.5 - 99.5 | 17.9 ± 13.4 | 5.6 - 55.2 | 65.4 ± 41.2 | 10.9 - 171.4 | 91.1 |
| *Eudoxoides mitra* (Huxley, 1859) | 0.8 ± 1.3 | 2.3 - 3.1 | 11.2 ± 5.9 | 1.6 - 25.2 | 46.4 ± 30 | 7.1 - 109.5 | 84.4 |
| *Sulculeolaria chuni* (Lens & van Riemsdijk, 1908) | 4.3 ± 4.9 | 1.7 - 14.3 | 2.5 ± 2.5 | 0.5 - 11 | 4.3 ± 2.8 | 1 - 9.5 | 84.4 |
| *Abylopsis tetragona* (Otto, 1823) | 2.9 ± 5.9 | 1.7 - 20.3 | 2.8 ± 1.8 | 1.3 - 6.6 | 5.3 ± 3.9 | 1.4 - 12.8 | 82.2 |
| *Diphyes dispar* Chamisso & Eysenhardt, 1821 | 2.5 ± 1.5 | 1.9 - 4.7 | 2.5 ± 3 | 0.7 - 11.6 | 2.5 ± 1.8 | 1 - 5.3 | 77.8 |
| *Eudoxoides spiralis* (Bigelow, 1911) | 3.2 ± 6.7 | 4.1 - 22.6 | 2.1 ± 2 | 0.9 - 6 | 5.5 ± 4.9 | 1.6 - 17.5 | 64.4 |
| *Lensia meteori* (Leloup, 1934) | 0 | 0 | 4 ± 3.3 | 0.7 - 11.9 | 0.6 ± 0.8 | 1 - 2.1 | 48.9 |
| *Cordagalma ordinatum* (Haeckel, 1888) | 0.4 ± 1.4 | 4.5 - 4.5 | 0.2 ± 0.4 | 0.6 - 1.3 | 4.7 ± 3 | 1 - 10.5 | 46.7 |
| *Nanomia bijuga* (Delle Chiaje, 1844) | 1.4 ± 1.4 | 2.3 - 3.5 | 0.1 ± 0.2 | 0.3 - 0.9 | 1.8 ± 2.6 | 1.5 - 10 | 35.6 |
| *Ceratocymba leuckartii* (Huxley, 1859) | 0.3 ± 0.9 | 3.1 - 3.1 | 0.3 ± 0.4 | 0.3 - 1.3 | 0.6 ± 0.7 | 1 - 1.7 | 33.3 |
| *Lensia* spp. | 0 | 0 | 0.9 ± 1.9 | 0.5 - 8 | 1.7 ± 1.8 | 1.1 - 5.7 | 33.3 |
| *Agalma okenii* Eschscholtz, 1825 | 0 | 0 | 0.4 ± 0.5 | 0.5 - 1.4 | 0.6 ± 0.9 | 1 - 2.7 | 28.9 |
| *Vogtia glabra* Bigelow, 1918 | 0 | 0 | 0.4 ± 0.6 | 0.3 - 1.7 | 0.5 ± 0.7 | 1.4 - 1.8 | 28.9 |
| *Muggiaea kochii* (Will, 1844) | 65.2 ± 68.4 | 25.1 - 184.5 | 2.5 ± 8.7 | 1.3 - 39.4 | 0.1 ± 0.3 | 1.1 - 1.1 | 26.7 |
| *Sulculeolaria biloba* (Sars, 1846) | 0 | 0 | 2.1 ± 3.7 | 0.5 - 13 | 0 | 0 | 17.8 |
| *Agalma elegans* (Sars, 1846) | 0 | 0 | 0.2 ± 0.4 | 0.7 - 1.3 | 0.4 ± 1.2 | 1 - 4.5 | 13.3 |
| *Hippopodius hippopus* (Forsskål, 1776) | 0 | 0 | 0.1 ± 0.2 | 0.5 - 0.8 | 0.1 ± 0.4 | 1.6 - 1.6 | 13.3 |
| *Lensia fowleri* (Bigelow, 1911) | 0 | 0 | 0 | 0 | 0.9 ± 1.2 | 1.4 - 3.2 | 13.3 |
| *Amphicaryon acaule* Chun, 1888 | 0 | 0 | 0.1 ± 0.3 | 0.6 - 1.3 | 0.3 ± 0.6 | 1.1 - 1.7 | 11.1 |
| *Lensia cossack* Totton, 1941 | 0 | 0 | 0.1 ± 0.2 | 0.6 - 0.7 | 0.3 ± 0.9 | 1.8 - 3 | 11.1 |
| *Sulculeolaria turgida* (Gegenbaur, 1854) | 0 | 0 | 0.1 ± 0.1 | 0.7 - 0.7 | 0.5 ± 1.1 | 1 - 3.5 | 11.1 |
| *Halistemma rubrum* (Vogt, 1852) | 0 | 0 | 0.1 ± 0.4 | 0.9 - 1.3 | 0.2 ± 0.5 | 1.4 - 1.6 | 8.9 |
| *Lensia hotspur* Totton, 1941 | 0 | 0 | 0.1 ± 0.4 | 0.3 - 1.5 | 0.1 ± 0.4 | 1.5 - 1.5 | 8.9 |
| *Chuniphyes* sp. | 0 | 0 | 0 | 0 | 0.3 ± 0.7 | 1 - 2.1 | 6.7 |
| *Forskalia contorta* (Milne Edwards, 1841) | 0.6 ± 1.7 | 5.6 - 5.6 | 0.1 ± 0.3 | 0.3 - 1.3 | 0 | 0 | 6.7 |
| *Lensia leloupi* Totton, 1954 | 0 | 0 | 0.7 ± 3 | 0.9 - 13.3 | 0 | 0 | 6.7 |
| *Physophora hydrostatica* Forsskål, 1775 | 0 | 0 | 0.1 ± 0.3 | 0.5 - 1.3 | 0 | 0 | 6.7 |
| *Abyla* sp. | 0 | 0 | 0.1 ± 0.2 | 0.8 - 0.8 | 0 | 0 | 4.4 |
| *Amphicaryon ernesti* Totton, 1954 | 0 | 0 | 0 | 0 | 0.2 ± 0.5 | 1.1 - 1.6 | 4.4 |
| *Athorybia rosacea* (Forsskål, 1775) | 0 | 0 | 0 | 0 | 0.2 ± 0.5 | 1.5 - 1.6 | 4.4 |
| *Lensia campanella* (Moser, 1917) | 2.3 ± 6.8 | 22.6 - 22.6 | 0.1 ± 0.1 | 0.5 - 0.5 | 0 | 0 | 4.4 |
| *Lensia subtiloides* (Lens & van Riemsdijk, 1908) | 0 | 0 | 0.1 ± 0.3 | 0.7 - 1.3 | 0 | 0 | 4.4 |
| *Sulculeolaria monoica* (Chun, 1888) | 0 | 0 | 0.1 ± 0.2 | 0.9 - 0.9 | 0.1 ± 0.4 | 1.7 - 1.7 | 4.4 |
| Torybia | 0 | 0 | 0.1 ± 0.4 | 0.9 - 1.4 | 0 | 0 | 4.4 |
| *Dimophyes arctica* (Chun, 1897) | 0 | 0 | 0 | 0 | 0.1 ± 0.4 | 1.7 - 1.7 | 2.2 |
| *Lensia conoidea* (Keferstein & Ehlers, 1860) | 0 | 0 | 0.1 ± 0.1 | 0.3 - 0.3 | 0 | 0 | 2.2 |
| *Lensia hardy* Totton, 1941 | 0 | 0 | 0 | 0 | 0.1 ± 0.4 | 1.6 - 1.6 | 2.2 |
| *Lensia multicristata* (Moser, 1925) | 0 | 0 | 0 | 0 | 0.1 ± 0.5 | 2.1 - 2.1 | 2.2 |
| Prayidae spp. | 0 | 0 | 0.1 ± 0.2 | 0.8 - 0.8 | 0 | 0 | 2.2 |
| *Vogtia pentacantha* Kölliker, 1853 | 0 | 0 | 0 | 0 | 0.1 ± 0.4 | 1.7 - 1.7 | 2.2 |
| **Scyphomedusae** |  |  |  |  |  |  |  |
| *Nausithoe* spp. | 2.3 ± 6.1 | 2.4 - 20.4 | 0.4 ± 0.8 | 0.8 - 3.1 | 0 | 0 | 13.3 |
| *Nausithoe punctata* Kölliker, 1853 | 0.3 ± 0.8 | 2.8 - 2.8 | 0.3 ± 0.7 | 0.5 - 2.4 | 0 | 0 | 8.9 |
| Efira | 0.4 ± 0.8 | 1.7 - 2 | 0.1 ± 0.2 | 0.9 - 0.9 | 0 | 0 | 6.7 |
| *Nausithoe maculata* Jarms, 1990 | 1.2 ± 3.7 | 12.3 - 12.3 | 0.1 ± 0.3 | 1.3 - 1.3 | 0.1 ± 0.4 | 1.7 - 1.7 | 6.7 |
| **Anthozoa** |  |  |  |  |  |  |  |
| Cerinula | 0.2 ± 0.6 | 2 - 2 | 1.1 ± 1.6 | 0.5 - 6.7 | 2.7 ± 2.1 | 1.1 - 8.1 | 53.3 |