# Supplementary Material

Supplementary Figure 1: Map of the sediment classification of the northeastern Brazil coast and zone A (dominated by sand) and zone B (where complex substrates such as calcareous algae and reefs occur more). AL: Alagoas; PB: Paraiba; PE: Pernambuco; RN: Rio Grande do Norte. The sedimentological data were compiled from the Brazilian National Oceanographic Data Bank (BNDO) and literature(Amaral and Santos, 2015; Assiset al., 2016; Assis et al., 2015; Vital et al., 2005) (Assis et al., 2015, 2016, Amaral et al., 2015, Vital et al., 2005) with information about the sediment composition (i.e., percent of mud, sand, and gravel). The sediment data were categorized attributing distinct numbers 1 to 9 to each sediment class and then interpolated, with the same spatial resolution of 100 m, using the natural neighbor technique, to generate a textural classification map according to (Lucatelli et al. (2020).



Supplementary Figure 2: Resultant uncertainty in the TA (total isotopic área), dC (carbon range and dN (nitrogen range) arising from the simulations. Black dots represent the mode of the values, and the shaded boxes represent the 50%, 75%and 95% credible intervals from dark to light grey.



Supplementary Table 1: Trophic guild (from Ferreira et al. 2019), trophic levels (from Fishbase).

|  |  |  |
| --- | --- | --- |
| Species | Acronym | Trophic Guild |
| Acanthurus chirurgus (Bloch, 1787) | aca.chi | Herbivorous |
| Haemulon aurolineatum Cuvier, 1830 | hae.aur | Zoobenthivorous |
| Haemulon plumierii (Lacepède, 1801) | hae.plu | Zoobenthivorous |
| Holocentrus adscensionis (Osbeck, 1765) | hol.ads | Zoobenthivorous |
| *Hypanus marianae* (Gomes, Rosa & Gadig, 2000) | hyp.mar | Zoobenthivorous |
| *Lutjanus synagris* (Linnaeus, 1758) | lut.syn | Zoobenthivorous |
| *Pseudupeneus* maculatus (Bloch, 1793) | pse.mac | Zoobenthivorous |
| *Sparisoma axillare* (Steindachner, 1878) | spa.axi | Herbivorous |

Supplementary Table 2: Importance of each compartment in the diet of the selected species.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Algae | Animal | Crustacea | Detritus | Echinodermata | Mollusca | Polychaeta | Seagrass | Teleostei | Reference |
| aca.chi | 61% | 2% |  | 44% |  |  |  | 3% |  | (Ferreira and Gonçalves, 2006) |
| hae.aur |  |  | 72% |  | 5% | 3% | 20% |  | 0,1% | Cruise dataSubmitted in Limeira et al. |
| hae.plu |  |  | 42% |  | 23% | 4% | 19% |  | 12% | Cruise dataSubmitted in Limeira et al. |
| hol.ads |  |  | 95% |  |  | 1% | 4% |  |  | (Randall, 1967) |
| hyp.mar |  |  | 54% |  |  |  | 41% |  | 1% | (Queiroz et al., 2019) |
| lut.syn | 0,12% |  | 75% |  |  | 2% | 0,36% |  | 22,5% | (Duarte and Garcia, 1999) |
| pse.mac |  |  | 95% |  |  | 2% |  |  | 3% | Cruise dataPublished in (Soares et al., 2020) |
| spa.axi | 39% | 1% |  | 58% |  |  |  | 2% |  | (Ferreira and Gonçalves, 2006) |

Supplementary Table 3: Number of individuals analysed (n), mean values (±SD) of stable isotope ratios of carbon (𝛿13C) and nitrogen (𝛿15N), size range (Total length cm), SEAc (corrected Standard ellipse area) and ITP (intraspecific trophic pressure) values for each selected species in zones A and B.

|  |  |  |
| --- | --- | --- |
|  | zone A | zone B |
| Species | n | δ13C (‰) | δ15N (‰) | Size (cm) | SEAc | ITP | n | δ13C (‰) | δ15N (‰) | Size (cm) | SEAc | ITP |
| aca.chi | 18 | -16.4 ±2.9 | 7.3 ±1.9 | 14.8-27.0 | 98.9 | 0.03 | 8 | -15.8 ±0.2 | 7.7 ±2.1 | 13.8-25.0 | 12.9 | 0.22 |
| hae.aur | 32 | -15.1±0.6 | 8.8 ±1.4 | 11.7-25.0 | 13.5 | 0.31 | 35 | -15.3 ±0.7 | 9.7 ±1.3 | 11.5-21.0 | 15.7 | 0.18 |
| hae.plu | 27 | -14.7 ±0.4 | 9.0 ±0.8 | 18.6-28.8 | 6.6 | 0.48 | 41 | -15.1 ±0.5 | 10.1 ±1.2 | 12.7-28.7 | 11.4 | 0.25 |
| hol.ads | 17 | -15.3 ±0.8 | 9.0 ±0.7 | 19.4-27.4 | 10.3 | 0.34 | 31 | -15.1 ±0.6 | 8.6 ±0.7 | 13.3-25.4 | 5.8 | 0.54 |
| hyp.mar | 20 | -14.1±0.9 | 7.7 ±1.0 | 44.0-55.0 | 17.4 | 0.16 | 14 | -14.7 ±0.6 | 7.2 ±0.7 | 29.0-65.0 | 7.4 | 0.32 |
| lut.syn | 37 | -15.4±0.8 | 9.9 ±1.3 | 12.6-26.8 | 18.2 | 0.16 | 23 | -15.0 ±0.6 | 10.1 ±1.1 | 16.6-26.8 | 8.4 | 0.32 |
| pse.mac | 43 | -16.1±0.8 | 8.2 ±0.6 | 13.4-28.3 | 9.3 | 0.35 | 57 | -15.7 ±0.6 | 8.2 ±0.9 | 9.2-26.0 | 10.2 | 0.33 |
| spa.axi | 8 | -17.2±0.5 | 5.8 ±0.2 | 16.7-21.4 | 2.6 | 0.87 | 10 | -16.8 ±0.5 | 5.8±1.1 | 24.0-30.0 | 9.8 | 0.21 |

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