**Supplementary data:**

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**Figure S1.** The distribution of threatened reef fish species richness in different biological attributes along the Brazilian Province. (a) Macrocarnivores (MCAR); (b) Mobile invertivores (MINV); (c) Elasmobranchii; (d) Teleostei; (e) Large-bodied species; (f) High-mobility species. The color gradient represents the percentage of threatened species with each attribute. Sites: SC, state of Santa Catarina; PR, state of Paraná; SP, state of São Paulo; RJ, state of Rio de Janeiro; Igr, Ilha Grande Bay; ArC, Arraial do Cabo; ES, state of Espírito Santo; Abr, Abrolhos; BA, state of Bahia; Tri, Trindade-Martin Vaz insular complex; VTC, Vitória-Trindade chain; AL, state of Alagoas; PB, state of Paraíba; PE, state of Pernambuco; RN, state of Rio Grande do Norte; CE, state of Ceará; PA-MA, states of Pará and Maranhão; PML, Manuel Luís Parcel; SpSp, São Pedro and São Paulo Archipelago; FN, Fernando de Noronha Archipelago; ROC, Rocas Atoll.



**Figure S2.** Cluster analyses based on the proportions of threatened species in different biological traits. Barplots in cluster branches represent the distribution of threatened species in biological trait categories. Values at cluster nodes correspond to approximately unbiased significance values (AU). (a) habitat use; (b) body-size class; (c) trophic group categories. Locations: SC, Santa Catarina State; PR, Paraná State; SP, São Paulo State; RJ, Rio de Janeiro State; Igr, Ilha Grande Bay; ArC, Arraial do Cabo; ES, Espírito Santo State; Abr, Abrolhos; BA, Bahia State; Tri, Trindade-Martin Vaz insular complex; VTC, Vitória-Trindade chain; AL, Alagoas State; PB, Paraíba State; PE, Pernambuco State; RN, Rio Grande do Norte State; CE, Ceará State; PA-MA, Pará and Maranhão State; PML, Manuel Luís Parcel; SpSp, São Pedro and São Paulo Archipelago; FN, Fernando de Noronha Archipelago; ROC, Rocas Atoll.

**Table S1.** List of 56 non-threatened species cited in the Brazilian Red List of Threatened species (Brasil, 2018), which present the set of attributes that are good predictors of extinction risk. As a consequence, these species may be categorized as threatened in the near future, needing more attention from the authorities.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Species** | **Family** | **Author** | **Trophic group** | **Body size** | **Mobility** | **Habitat use** | **MMA 2018** | **IUCN Trend 2019/2** |
| ***Acanthocybium solandri*** | Scombridae |  Cuvier, 1832  | MCAR | LARGE | HMO | 3 | LC | Stable |
| ***Albula nemoptera*** | Albulidae |  Fowler, 1911  | MINV | LARGE | ROV | 4 | LC | Unknown |
| ***Alectis ciliaris*** | Carangidae |  Bloch, 1787  | MCAR | LARGE | HMO | 3 | LC | Unknown |
| ***Brotula barbata*** | Ophidiidae |  Bloch & Schneider, 1801  | MINV | LARGE | ROV | 3 | DD | Unknown |
| ***Calamus bajonado*** | Sparidae |  Bloch & Schneider, 1801  | MINV | LARGE | ROV | 3 | NA | Unknown |
| ***Calamus calamus*** | Sparidae |  Valenciennes, 1830  | MINV | LARGE | ROV | 4 | NA | Unknown |
| ***Caranx hippos*** | Carangidae |  Linnaeus, 1766  | MCAR | LARGE | HMO | 3 | LC | Stable |
| ***Carcharhinus brevipinna*** | Carcharhinidae |  Müller & Henle, 1839  | MCAR | LARGE | HMO | 3 | DD | Unknown |
| ***Carcharhinus falciformis*** | Carcharhinidae |  Müller & Henle, 1839  | MCAR | LARGE | HMO | 3 | NT | Decreasing |
| ***Carcharhinus leucas*** | Carcharhinidae |  Müller & Henle, 1839  | MCAR | LARGE | HMO | 3 | NT | Unknown |
| ***Carcharhinus limbatus*** | Carcharhinidae |  Müller & Henle, 1839  | MCAR | LARGE | HMO | 4 | NT | Unknown |
| ***Caulolatilus chrysops*** | Malacantidae |  Valenciennes, 1833  | MCAR | LARGE | ROV | 3 | LC | Unknown |
| ***Centropomus parallelus*** | Centropomidae | Poey, 1860 | MCAR | LARGE | HMO | 4 | DD | Unknown |
| ***Channomuraena vittata*** | Muraenidae |  Richardson, 1845  | MCAR | LARGE | ROV | 3 | LC | Unknown |
| ***Coryphaena equiselis*** | Coryphaenidae | Linnaeus, 1758 | MCAR | LARGE | HMO | 1 | LC | Stable |
| ***Coryphaena hippurus*** | Coryphaenidae | Linnaeus, 1758 | MCAR | LARGE | HMO | 1 | LC | Stable |
| ***Dasyatis hypostigma*** | Dasyatidae | Santos & Carvalho, 2004 | MINV | LARGE | ROV | 4 | DD | Unknown |
| ***Dermatolepis inermis*** | Epinephelidae |  Valenciennes, 1833  | MCAR | LARGE | ROV | 3 | DD | Decreasing |
| ***Echidna catenata*** | Muraenidae |  Bloch, 1795  | MCAR | LARGE | ROV | 3 | LC | Unknown |
| ***Echiophis intertinctus*** | Ophichthidae |  Richardson, 1848  | MINV | LARGE | ROV | 1 | LC | Unknown |
| ***Echiophis punctifer*** | Ophichthidae |  Kaup, 1859  | MINV | LARGE | ROV | 1 | NA | Unknown |
| ***Elagatis bipinnulata*** | Carangidae |  Quoy & Gaimard, 1825  | MCAR | LARGE | HMO | 3 | LC | Stable |
| ***Epinephelus adscensionis*** | Epinephelidae |  Osbeck, 1765  | MCAR | LARGE | ROV | 4 | DD | Stable |
| ***Fistularia petimba*** | Fistulariidae | Lacepède, 1803 | MCAR | LARGE | ROV | 4 | LC | Unknown |
| ***Fistularia tabacaria*** | Fistulariidae | Linnaeus, 1758 | MCAR | LARGE | ROV | 4 | LC | Unknown |
| ***Gymnothorax miliaris*** | Muraenidae |  Kaup, 1856  | MCAR | LARGE | ROV | 4 | LC | Unknown |
| ***Gymnothorax polygonius*** | Muraenidae | Poey, 1875 | MCAR | LARGE | ROV | 4 | DD | Unknown |
| ***Gymnura micrura*** | Gymnoridae |  Bloch & Schneider, 1801  | MINV | LARGE | ROV | 3 | NT | Unknown |
| ***Halichoeres radiatus*** | Labridae |  Linnaeus, 1758  | MINV | LARGE | ROV | 3 | LC | Unknown |
| ***Hyporthodus mystacinus*** | Epinephelidae |  Poey, 1852  | MCAR | LARGE | ROV | 3 | DD | Unknown |
| ***Istiophorus albicans*** | Istiophoridae |  Latreille, 1804  | MCAR | LARGE | HMO | 1 | LC | Not evaluate by IUCN |
| ***Lachnolaimus maximus*** | Labridae |  Walbaum, 1792  | MINV | LARGE | ROV | 3 | NA | Decreasing |
| ***Lobotes surinamensis*** | Lobotidae |  Bloch, 1790  | MCAR | LARGE | ROV | 4 | LC | Stable |
| ***Lutjanus vivanus*** | Lutjanidae |  Cuvier, 1828  | MCAR | LARGE | ROV | 4 | NT | Decreasing |
| ***Muraena pavonina*** | Muraenidae | Richardson, 1845 | MCAR | LARGE | ROV | 4 | LC | Unknown |
| ***Narcine sp*** | Narcinidae | A descrever por Marcelo Carvalho  | MCAR | LARGE | ROV | 3 | NA | Not evaluate by IUCN |
| ***Odontaspis ferox*** | Odontaspididae |  Risso, 1910  | MCAR | LARGE | HMO | 1 | DD | Decreasing |
| ***Ophichthus ophis*** | Ophichthidae |  Linnaeus, 1758  | MINV | LARGE | ROV | 3 | LC | Unknown |
| ***Paralichthys brasiliensis*** | Paralichthyidae |  Ranzani, 1842  | MINV | LARGE | ROV | 3 | LC | Not evaluate by IUCN |
| ***Pinguipes brasilianus*** | Pinguipedidae | Cuvier, 1829 | MINV | LARGE | ROV | 1 | LC | Not evaluate by IUCN |
| ***Rhinobatos percellens*** | Rhinobatidae |  Walbaum, 1792  | MINV | LARGE | ROV | 3 | DD | Unknown |
| ***Rhizoprionodon lalandii*** | Carcharhinidae |  Müller & Henle, 1839  | MCAR | LARGE | HMO | 3 | NT | Unknown |
| ***Rhomboplites aurorubens*** | Lutjanidae |  Cuvier, 1829  | MCAR | LARGE | ROV | 4 | NT | Decreasing |
| ***Scomberomorus cavalla*** | Scombridae |  Cuvier, 1829  | MCAR | LARGE | HMO | 4 | LC | Stable |
| ***Scomberomorus regalis*** | Scombridae |  Bloch, 1793  | MCAR | LARGE | HMO | 3 | LC | Unknown |
| ***Selene setapinnis*** | Carangidae |  Mitchil, 1815  | MCAR | LARGE | HMO | 3 | LC | Stable |
| ***Seriola dumerili*** | Carangidae |  Risso, 1810  | MCAR | LARGE | HMO | 4 | LC | Unknown |
| ***Seriola fasciata*** | Carangidae |  Bloch, 1793  | MCAR | LARGE | HMO | 4 | DD | Unknown |
| ***Seriola lalandi*** | Carangidae |  Valenciennes, 1833  | MCAR | LARGE | HMO | 4 | LC | Stable |
| ***Seriola rivoliana*** | Carangidae |  Valenciennes, 1833  | MCAR | LARGE | HMO | 4 | LC | Stable |
| ***Sphyraena barracuda*** | Sphyraenidae |  Edwards, 1771  | MCAR | LARGE | HMO | 4 | LC | Unknown |
| ***Thunnus albacares*** | Scombridae |  Bonnaterre, 1788  | MCAR | LARGE | HMO | 1 | LC | Decreasing |
| ***Thunnus atlanticus*** | Scombridae |  Lesson, 1831  | MCAR | LARGE | HMO | 1 | LC | Stable |
| ***Trichiurus lepturus*** | Trichiuridae | Linnaeus 1758 | MCAR | LARGE | HMO | 4 | LC | Stable |
| ***Tylosurus acus*** | Belonidae |  Lacepède, 1803  | MCAR | LARGE | HMO | 4 | LC | Unknown |
| ***Tylosurus crocodilus*** | Belonidae |  Péron & Lesueur, 1821  | MCAR | LARGE | HMO | 3 | LC | Unknown |

Legend: Trophic Group: Macrocarnivores (MCAR) and Mobile Invertivores (MINV); Body Size: Large; High mobility (HMO); Roving mobility (ROV); Habitat use: Specialist (1), Intermediate generalists (3,4)