GENERAL INFORMATION

Title of Dataset: Data from: *Maximization of fitness by phenological and phenotypic plasticity in range expanding rabbitfish (Siganidae)*.

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DATA & FILE OVERVIEW

This file contains the datasets compiled for the different analyses of shifts in life-history traits of range-expanding rabbifish *Siganus rivulatus* and *Siganus fuscescens* of the paper *Maximization of fitness by phenological and phenotypic plasticity in range expanding rabbitfish (Siganidae)*.

Data of Spawning Duration, Spawning Onset, Minimum Size at Maturity, Fecundity, Size-at-Age, Growth Rates, Longevity and Maximum Size were obtained from the literature using the following two independent search criteria in the Web of Science: {\*Siganus OR rabbitfish\* AND \*reproduction OR fecundity OR spawning\*} and {\*Siganus OR rabbitfish\* AND \*size OR length OR growth OR Age OR abundance\*}. Publications with useful information were then selected, and the references cited within, as well as the publications that had cited each of these works, were reviewed in turn to obtain more publications that were not detected by the initial online searches. Siganus fuscescens and Siganus canaliculatus were considered synonyms and data from studies of these were pooled (Hsu et al. 2011).

Data were extracted from tables and scatterplot figures using the software DataThief (Flower et al. 2016). In all cases, length was standardized to fork length (FL) using the length-length equations reported in FishBase for S. fuscesens (Froese & Pauly 2019), and by Shakman et al. (2008) for S. rivulatus. Information on growth and longevity for both species of rabbitfish was only extracted from studies that reported growth curves based on length-at-age information produced from the analysis of sectioned sagittal otoliths of females and males. Fecundity data represents number of mature eggs per gonad per female individual during spawning time. In addition, we estimated length-at-age information for populations of *S. fuscescens* in Western Australia from specimens collected in temperate (Perth) and tropical environments (Pilbara and Kimberley).

Time-series of environmental data spanning the time frames of each study of reproduction and growth rates of *S. fuscescens* and *S. rivulatus* were obtained from the European Union`s Copernicus Marine Service (EU’s Earth Observation 2021) for average (SSTm) and minimum (*i.e.* winter: SSTmin) monthly sea surface temperature (SST; Co) and primary productivity (mg m-2 day-1) from the products GLORYS12V1 (1/12° horizontal resolution), GLOBAL\_REANALYSIS\_BIO\_001\_029 (1/4° horizontal resolution) and OCEANCOLOUR\_GLO\_CHL\_L4 (1/27° horizontal resolution). For the analyses of maximum body size and longevity across temperature gradients, we obtained the long-term temperature variables for each location from the database BioOracle (Assis et al. 2018).

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