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Associations of mimic juvenile fish with plant debris: A new purpose on how do juvenile fish use coastal habitats as nurseries

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Juvenile mimic ichthyofauna was surveyed in the mangroves of three locations, in north and north eastern Brazil and in western Colombia using both field observational and comparative geometric morphometrics approaches. Total 668 mimic juvenile individual fishes (16 genera of 11 families) were confirmed to mimic on mangrove plant debris from the three sampling sites and the frequencies of occurrence of mimic juvenile fish were strongly influenced by tidal conditions. Erratic mimic fish were more frequently observed during high and flood tide conditions in the spring tide when large amount of plant debris was present in the water surface in all observed sites. Three distinct groups of mimic juveniles were classified via morphometrics comparative analysis of fish and plant debris, i.e. leafy, seedy and twiggy supported by multivariate statistical analyses (Meta MDS; Bray-Curtis). Our results show a new perspective of how do juvenile fish can make use of mangrove environments in terms of habitat choice, first settlement stages and predator avoidance and discuss the importance of the interaction between such organisms and its surrounding environment under a multi-disciplinary approach, combining behavioral ecology, functional ecology, early ontogeny and geometric morphometrics. These results may also provide important clues for conservation of both mangrove environments and some fish species particularly those that are currently endangered (i.e. *Epinephelidae* and *Serranidae*) also discussing evolutionary convergence aspects due to the behavioral similarity shared by the several species.

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Coldwater marine fishes as potential objects of aquaculture and maintenance in aquariums worldwide

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Attempts to involve coldwater marine fishes into aquaculture were previously done repeatedly. However due to various reasons, this direction has been not properly developed. Meanwhile, it might be considered as very prospective one and there several main directions of its development. Fish farming: Cultivation of fish in marine environment allows taking commercial production of species that are rather rare in the wild or which meat has high market price (example sablefish *Anoplopoma fimbria*, skilfish *Erilepis zonifer*, Atlantic and Pacific halibuts *Hippoglossus hippoglossus* and *H. stenolepis*, rough scale sole *Clidoderma asperrimum*, thornyheads *Sebastolobus* spp., tooth fishes *Dissostichus* spp.). Stock enhancement: This direction of aquaculture aims to maintain abundance of populations exploited by fisheries at sustainable level or to help recovering of overfished stocks. For instance, such approaches to enhance Pacific cod *Gadus macrocephalus* stocks are used currently in Japan and Republic of Korea and might be considered as very promising. Completion of public aquariums exhibits: In public aquariums worldwide, as a rule, representatives of tropical ichthyofauna are mostly demonstrated. Meanwhile, there are many species among fishes of northern latitudes having bright coloration and exotic appearance (example Cyclopteridae, Agonidae, Zoarcidae, Cottidae, Hemitripterae, Pholidae, Stichaeidae, Liparidae, Hexagrammidae etc.) that make their maintenance in public aquariums very attractive. Maintenance in research aquariums: The biology of variety of coldwater marine species remains poorly understood (example skates, snailfishes, poachers, sculpins, eelpouts etc.). Therefore maintenance of coldwater fish species in research aquariums has scientifically cognitive aspect.

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