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# Fisheries 2018: The study of stratification and stability of qeshm island west coast water and mangrove forest and effect on the ecology of ornamental fish- Khoshkhou-Maryam and Ahmadzadeh-Ehsan- Research center Razi Rey, Sepah Bank Brokerage Co.

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The Persian Gulf is one of the most important bodies of water which has a very difficult and overwhelming dominant ecosystem due to severe environmental conditions such as temperature and salinity. Qeshm Island has a fundamental role in the diversity of biological behavior as well as available dispersion. The equation of condition of the sea, the key gnomon of Air and Water and Quantity are the observation in International charts and the coefficient of an equation of sea is the important parameter that limits the circulation of the ocean. At the beginning of hot days, the weather change in the column of water, the Thermocline layer has appeared. The existence of Thermocline layer in summer in effect of hot water capacity and penetration hot water in Winter into the lower layers. Ocean areas are by nature have a Double-diffusion convection, because of the existing salinity and temperature differences in various depths. As part of the ocean has a temperature inversion (temperature increasing with depth). In the Island, there are two procedures of dual diffusion-convection; including finger and the diffusive regime, which have a conventional role in creating temperature inversion. Effects of bottom topography and coastline drastic changes influence the double-diffusive convection. At the beginning of hot days, due to the temperature change in a column of water, the Thermocline layer appears. The existence of Thermocline layer in summer is the result of hot water capacity and lack of penetration of hot water in winter into the lower layers.

Persian Gulf is located at 48 degrees and 56 minutes east and 24 degrees and 30 minutes north and is one of the Northwestern sub-basins of the Indian Ocean. The Persian Gulf has been facing many environmental challenges like biodiversity loss, industrial pollution, and harmful effluents (Sabzalizade and Dehqan Medise, 2010). Since many industrialized cities reside on its shores, Persian Gulf is exposed to several different pollutants. Because of being shallow, limited circulation, salinity, and high temperature, the northern parts of the Persian Gulf are more affected by the pollutants. Furthermore, environmental incidents, ship traffic, transportation, oil pollutants, and oil spills can cause different pollutants including heavy.

Habitat use by fish in intertidal mangrove creeks is relatively unstudied in the Persian Gulf. . We investigated the role of temporal variations and creek elevation in shaping fish community structure in intertidal mangrove creeks in the Strait of Hormuz, Qeshm Island, Iran (western Indian Ocean). Block net sampling was carried out to examine the influence of 3 types of temporal dynamics on patterns of fish diversity and biomass. Tides, diel day/night variations, and seasonally proved important for fish dynamics. The fish assemblage of 29 species was dominated by Mugilidae, which constituted 62% of biomass and 41% by abundance. Although the most abundant species occurred in all creeks and months, the number of species, community biomass and abun-dance of individuals were significantly influenced by tide and day/night cycles, with highest values during nighttime spring tides and lowest values during daytime neap tides. Gut content studies showed that fish accessing marsh surfaces on nighttime spring tides generally had 75−100% full guts, indicating trophic use of mangrove areas. The findings from this meso-tidal arid are a generally agree with previous studies of mangrove creeks from wetter tropical sites, but there were some exceptions. Notably, fish community abundance and biomass in February winter conditions were highest during nighttime neap tide conditions, instead of during nighttime spring tide conditions. This neap tide maximum was associated with a relatively greater

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dominance of resident fish species during winter, but may also indicate some temperature-related differences in fish use of mangroves that are at the northernmost regional limit of their distributions at Qeshm Island.

A total of 5954 individuals from 29 fish species and22 families were caught in 96 block net samples. Halfof the species (15 of 29 species) were abundant with10 or more individuals. The most speciose families were Clupeidae (4 species), *Haemulidae, Sparidae*, *Lutjanidae,* and *Gobiidae* (2 species each). The mostabundant species were *Liza klunzingeri* (41%, Mugilidae), *Leiognathus daura* (18%, Leiognathidae), *Pentaprion longimanus* (10%, Gerreidae), and *Thryssavitrirostris* (8%, Engraulidae). All other speciesaccounted for the remaining 20% of the total abundance, each with <5%. In terms of catch biomass, L.klunzingeri (62%), T. vitrirostris (8%), and A canthopagrus latus (5%, Sparidae) made up 75% of the catch. Transient species represented82% of the species and >85% of total abundance and biomass.

The most abundant species (relative abundance of >1%) occurred in all creeks (listed below). Also, the observed number of species was similar at 13−16species when 500 individuals were considered for comparisons between creeks, were listed as-*Liza klunzingeri (Mugilidae), Leiognathus daura (Leiognathidae), Pentaprion longimanus (Gerreidae), Thryssa vitrirostris (Engraulidae), Scatophagus argus (Scatophagidae), Acanthopagrus latus (Sparidae), Anodontostoma chacunda (Clupeidae), Sardinella longiceps (Clupeidae), Pomadasys kaakan (Haemulidae), Sardinella gibbosa (Clupeidae), Lutjanus johnii (Lutjanidae), Ilisha melastoma (Clupeidae), Sillago sihama (Sillaginidae),Pseudorhombus elevatus (Paralichthyidae), Plectorhinchus pictus (Haemulidae), Scartelaos tenuis (Gobiidae), Lutjanus russelli (Lutjanidae), Platycephalus indicus (Platycephalidae), Bathygobius fuscus (Gobiidae), Scomberoides lysan (Carangidae), Eleutheronema tetradactylum (Polynemidae), Sphyraena putnamiae (Sphyraenidae), Epinephelus coioides (Serranidae), Strongylura strongylura (Belonidae), Pseudosynanceia melanostigma (Synanceiidae), Abalistes stellatus (Balistidae), Acanthopagrus cuvieri (Sparidae), Hemiramphus archipelagicus (Hemiramphidae),* and *Upeneus sulphureus (Mullidae).*

The study generally agreed with previous work, showing greater fish use of intertidal mangrove habitats during nighttime spring tides when tempera-tures were cooler and foraging success was high. However, there were 2 unexpected findings in this study of arid Iranian mangrove systems. First, most fish species were transient rather than resident. This may be due in part to the stressful environmental conditions of the relatively high summer tempera-tures at this northern edge of the mangrove distribution in the western Indian Ocean. Secondly, in the February winter samples, relatively low fish biomass was observed in all samples and the highest numbers of fish occurred during nighttime neap rather than during nighttime spring tides. This high occurred when the fish assemblage was most resident, so that future studies should probably carefully separate resident and transient species when evaluating man-grove creeks as fish habitat.

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