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# Survey of marine fishes at Keti Bunder, district Thatha, Pakistan

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**ABSTRACT**

***Introduction:*** Pakistan is has 225 wetlands; largest canal system; and consist of 0.78 Million hectares area of wetland (74% of freshwater and 26% of coastal wetland). Pakistan also has 19 Ramsar site. Water is important for flora and fauna; without water life on earth was not possible. Animal and human communities are seen near water. Pakistan coastal wetland has a large variety of fauna and flora species.

***Materials and Methods:*** A survey was conducted at Keti Bunder; while study started from January 2015 and end in December 2015. Direct visual observation was carried out to identify the fish species from the study areas. The fishes were caught through gill net, trawl net, cast net, bag net, hand line, troll line and long line.

***Results:*** A total of 22 fish species were recorded at keti Bunder. The following species were recorded from the study area i.e. *Arius maculates, Pseudorhombus arsius, Alepes djedaba, Carangoides chrysophrys, Scomberiodes comnersonnianus, Rastrelliger chrysozous, Scomberromorus guttatus, Scomberromorus guttatus, Nematolosa nasus, Cynoglossus dubuius, Tenualosa ilisha, Pomadasys kakan, Pomadasys kakan, Lates calcarifer, Lutjanus johnii, Liza subviridus, Liza milanoptera, Congersox talabonoides, Johnius dussumieri, Promicrops lanceolatus, Acanthopagnus berda, Sphyraena putnamiae, Terapon jerboa* and *Pamus argenteus*.

***Conclusion:*** It is noted that area having high diversity of the marine fishes; people of the area having knowledge about the name, habitat and feeding habit of fishes.

***Key words:*** Habitat, Feeding, Net, Marine, Fish.

## INTRODUCTION

Pakistan is has 225 wetlands; largest canal system; and consist of 0.78 Million hectares area of wetland (74% of freshwater and 26% of coastal wetland). Pakistan also has 19 Ramsar sites (Altaf *et al.*, 2014). Water is important for flora and fauna (Bartram and Ballance, 1996); without water life on earth was not possible (Gleick *et al.*, 2002). Animal and human communities are seen near water (Gupta and Gupta, 2006).

Total 27,977 fish species were recorded from the whole world (Mirza and Alam, 2000). Froese and Pauly (2017) noted 719 marine-water fish species; while Rafique and Khan (2012) documented 193 freshwater fishes species in Pakistan. Diversity and density of the fish depend upon the nesting, breeding and feeding sites in the water reservoirs; among all continents, Asia has highest favorable climate for fishes. Anthropogenic impacts (i.e. urbanization, industrialization, agricultural intensification) (Altaf *et al.*, 2011a; Altaf *et al.*, 2011b; Altaf *et al.*, 2015; Hussain *et al.*, 2015) and Natural hazards (i.e. floods, storm and earthquake) and create negatives impacts on nesting, breeding and feeding sites of fishes (Thorp *et al.*, 2008); these changes incorporated in morphology and genetic of fishes (Taylor *et al.*, 2006).

Fish consumption in Pakistan is the lowest in whole world. Fishes of Pakistan are exported to following countries as Europe, America, Middle Eastern countries and Japan. Fisheries sector has the highest potential and export earnings in Pakistan (SMEDA, 1999). The main aim of the study was to know the diversity of marine fishes in Keti Bunder.

## MATERIALS AND METHODS

A survey was conducted at Keti Bunder; while study started from January 2015 and end in December 2015.

***Study area:*** Keti Bunder covers an area of 9,130 hectares and is situated at the Indus River. Mangrove forest is major forest of this area. The total population of Keti Bunder is 27,405 (WWF, 2005).

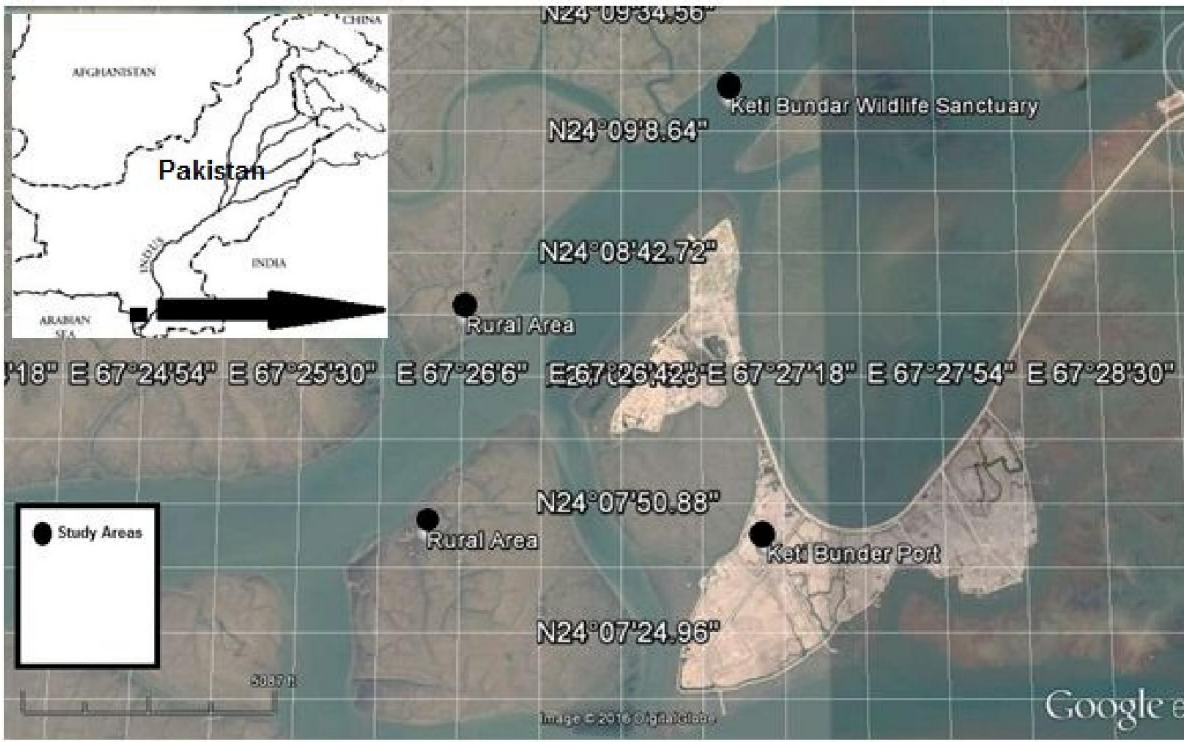


Figure 1. The Map of the Keti Bundar, Pakistan.

***Methodology:*** Direct visual and indirect (i.e. questionnaire) methods were utilized to know the fish diversity from the study areas. The fishes were caught through nets (i.e. trawl net, gill net, cast net, hand line, troll line, bag net and long line). The specimen were identified by different scientific techniques and help of key book of Fischer and Bianchi (1984) and Ahmad and Niazi (1998).

## RESULTS AND DISCUSSION

A total of 22 fish species were recorded at Keti Bunder. The following species were recorded from the study area i.e. *Arius maculates, Pseudorhombus arsius, Alepes djedaba, Carangoides chrysophrys, Scomberiodes comnersonnianus, Rastrelliger chrysozous, Scomberromorus guttatus, Scomberromorus guttatus, Nematolosa nasus, Cynoglossus dubuius, Tenualosa ilisha, Pomadasys kakan, Pomadasys kakan, Lates calcarifer, Lutjanus johnii, Liza subviridus, Liza milanoptera, Congersox talabonoides, Johnius dussumieri, Promicrops lanceolatus, Acanthopagnus berda, Sphyraena putnamiae, Terapon jerboa* and *Pamus argenteus.* The weight and size of the each species were measure as shown in Table 1. A total of 20 fish species belong to 19 families, 19 genera were recorded from Ibrahim Hyderi (Jatti) (Ali, 2017). Ali (2017) reported species are as; *Acanthopagrus latus, Alepes djedaba, Arius thalassinus, Congeresox talabonoides, Cynoglossus bilineatus, Epinephelus chlorostigma, Galeocerdo cuvieri, Himantura chaophraya, Labeo rohita, Lates calcarifer, Lutjanus argentimaculatus, Otolithus ruber, Pampus argenteus, Parastromateus nigar, Pomadagys kaakan, Pscudorhmbus arsius, Rhizprionodon acutus, Scomberomrus guttatus, Sillago sihama* and *Teranpon jarbue.*

**Table 1: List of Marine Fishes recorded from Keti Bunder**

| No. | Scientific Name | English Name | Local Name | Family | Maximum weight (Gms) | Maximum size (Cm) |
|---|---|---|---|---|---|---|
| 1 | *Arius maculates* | Spotted cat fish | Khagga | Ariidae | 50 | 40 |
| 2 | *Pseudorhombus arsius* | Large toothed | Kukar-jeeb | Bothidae | 1000 | 35 |
| 3 | *Alepes djedaba* | Shrimp scad | Seem, bangra | Carangidae | 90 | 40 |
| 4 | *Carangoides chrysophrys* | Longnose trevally | Seem, bangra | Carangidae | 400 | 70 |
| 5 | *Scomberiodes comnersonnianus* | Blacktip leatherskin | Saram | Carangidae | 15,000 | 110 |
| 6 | *Rastrelliger chrysozous* | Indian mackerel | Bangra | Scombridae | 115 | 30 |
| 7 | *Scomberromorus guttatus* | Indopacific king mackerel | Kalagund | Scombridae | 700 | 75 |
| 8 | *Nematolosa nasus* | Long ray bony bream | Dadi,Pali | Clupeidae | 150 | 20 |
| 9 | *Cynoglossus dubuius* | Tongue soles | Sole | Cynoglossidae | 300 | 45 |
| 10 | *Tenualosa ilisha* | Hilsa shed | Palla | Clupeidae | 2400 | 60 |
| 11 | *Pomadasys kakan* | Grunter | Dhother | Haemulidae | 35000 | 80 |
| 12 | *Lates calcarifer* | Barramundi | Dangri | Latidae | 50,000 | 200 |
| 13 | *Lutjanus johnii* | One spot goldn snaper | Hira | Lutjanidae | 40,000 | 35 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 14 | *Liza subviridus* | Green back mullet | Chhodi | Mugilidae | 500 | 30 |
| 15 | *Liza milanoptera* | Large scale grey Mullet | Boi, Mori | Mugilidae | 22 | 30 |
| 16 | *Congersox talabonoides* | Pike congers | Bam | Muraenesocidae | 50,000 | 250 |
| 17 | *Johnius dussumieri* | Silver jewfish | Mushka | Sciaenidae | 30 | 40 |
| 18 | *Promicrops lanceolatus* | Grouper | Gisser | Serranidae | 40,000 | 270 |
| 19 | *Acanthopagnus berda* | Black bream | Dandya | Sparidae | 1500 | 45 |
| 20 | *Sphyraena putnamiae* | Barracuda | Kund | Sphyraenidae | 40,000 | 90 |
| 21 | *Terapon jerboa* | Jerboa terapon | Ginghra | Teraponidae | 10,000 | 36 |
| 22 | *Pamus argenteus* | Silver pomfret | Sufaid Paplet | Stromateidae | 3000 | 60 |

Fishing season according to local people of the study area as;

***Kati Season****:* Fishing season starts from 15th August and ends in the mid October in which the fisherman navigates into deep sea for fishing.

***Kandi Season:*** This season starts in the winter. This is also said to be deep sea fishing season.

***Charh:*** This season is limited to April and May in which fisherman catch suo, Khago, palplet and other fish species.

***Aakhir:*** This is the season of June, July and mid August in which fishing is generally off due to high tides. The fisherman do not go into sea instead, they keep fishing in the creeks.

***Conclusion:*** It is concluded that study area has rich diversity of the marine fishes; people of study area also having information about the common and local names of fishes.

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***Availability of data:*** I have included all collected data in the manuscript.

***Authors' contributions:*** Ali has designed this study; performed the research and done data write up.

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