

## Report from the Shells of the Beach Village Darak Chabahar

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### Abstract

Village Darak Chabahar is located between the desert and the sea. Sand, palm and sea it's all that takes place in a frame and makes a unique image. It is a new regional still unknown and original. Sistan and Baluchistan can be considered the most undiscovered parts of Iran. An unexplored mine of location and with an original nature and wild climate that incorporates Amazing animal and plants. Seashell, also known a shell, is a hard protective outer layer created by animals that live in the sea. The shell is part of the body of the animal. Empty seashells are often found on the beaches by passersby. The shells are empty because the animal has died and the soft parts have been eaten by another animal or have decomposed. A seashell is usually the exoskeleton of an invertebrate (an animal without a backbone), and is typically composed of calcium carbonate or chitin. Most shells that are found on beaches are the shells of marine mollusks, partly because these shells are usually made of calcium carbonate, and endure better than shells made of chitin. The purpose of collecting Shell Sea this is to show that shell of the village are similar to the shell of the Persian Gulf, and also tried to introduce and natural region to environmentalist.

**Keywords:** Shells; Village Darak; Mollusks; Chabahar

### Introduction

Since the earth's crust began to move and oceans divided between continents, the Pars Sea has been the southern border of the Iranian plateau. The Pars Sea, the Gulf always Fars. In addition, the Makran Sea is known today as Makran of Oman. Chabahar, one of the southeast cities of Sistan and Baluchistan province of Iran and it is the only ocean port of the country located on the coast of the Makran and Indian Ocean. Chabahar, it has numerous historical and natural attractions. The climate of the city and its surroundings is always springy, moderate. That's why four spring is called. Chabahar is the city center of Chabahar It is located at the extreme south - eastern part of Iran by the warm waters of the Indian Ocean. The Village of Darak zar Abad located in Sistan-Baluchistan province and this village is located on shores of Makran and around Konarak. At a distance of about 170 km west of Chabahar Free Zone and center Konarak county. Within 6 km of beach Darak Chabahar is considered the purest of the coast of Iran. Darak, in the Balochi dialect means staying beside the valley [1]. The shell is a scientific name that refers to the hard crust of all the mollusks species that have an outer cover such as Bivalve and Gastropods. Of course, the snail shell is also called shell. The material of shell is from silicate. These animals have one or two lime shells that their soft bodies have included. Some types of shells are edible. Shells are calcium carbonate. Mollusks needed sea limestone to make shell. After the mollusks die, the shell release into the water and float at the surface of the water [2]. Due to the unique properties of shell structure in recent years, attention has been paid, mollusks shells have wide applications in energy storage and conversion such as batteries [3]. Edible shells are zinc-rich. This material is essential for the production of sperm and testosterone, the shell contains dopamine, hormonal that increases sexual desire. In addition to maintaining the skin's collagen level, the skin helps smooth and flexible skin. Sugar found in shell and Sea Creatures can be the key to treating spinal cord injuries. Shell helps to improve brain function by having zinc [4]. The Coastal Makrn (CM) is the outermost part of the Makran zone, which is one of few intact areas to study the evolutionary trend of raised beaches and also to estimate the rate of coastal progradation since the late Holocene. The Makran zone is an accretionary wedge that has formed by the subduction of oceanic crust of Arabian Plate under the Eurasian Plate. The CM range in Iran is located between the eastern corner of the Hormuz Strait and the middle of the Guwader Bay at the Iran-Pakistan boundary [5].

Nowadays, materials with a core-shell structure have been widely explored for applications in advanced batteries owing to their superb properties. Core-shell structures based on the electrode type, including anodes and cathodes, and the material compositions of the cores and shells have been summarized [6]. Bivalve shells comprise a significant portion of shell mounds, so mollusks have always been seen as fundamental to shell mound societies [7]. In the map position of the village darak in sistan (Figure 1).

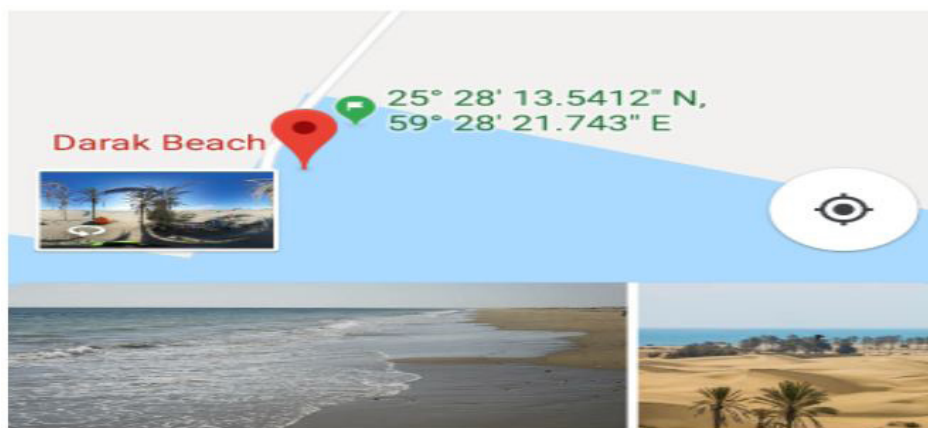


Figure 1: The position of the village Darak in Sistan and Baluchestan

The village forms a part of Zarabad County in the borders of Konarak. It is 19km from Johlou, the capital city of Zara bad. From the east, Darak is linked to the coastal village of Jod, and from the west it borders Poshti Village. Mountains embrace the village from the north and the sea from the south. Abandoning the usual tourist routes, one could take an unknown route to venture into Sistan and Baluchestan. Trotting along the mild path, we will reach its sandy shore that offers a unique spectacle. This village is located between two important southern port cities: Chabahar and Bandar Abbas.

## 20 Samples of Shell Collected from the Beaches of the Village Darak Chabahar

### *Diodora funiculata* (Reeve, 1850)

Class: Gastropoda

Order: Archaeogastropoda

Family: Fissurellidae

English Name: Keyhole limpet

Color: With brown rays.

Feature characters: Conical, keyhole toward anterior, 20-24 coarse

Radial ridges from hole to margin, three finer ridges between.

Distribution and behaviour: On gravel a sandy bottoms in low and mid intertidal zone, Herbivores, common.

Economic importance: For decoration (Figure 2)



Figure 2: *Diodora funiculata* (Reeve, 1850)

### *Euchelus asper* (Gmelin, 1791)

Class: Gastropoda

Order: Archaeogastropoda

Family: Trochidae

English Name: Margarite

Color: Dark grey and reddish

Feature characters: A slight tooth on columella, intersection of axial

And spiral ridges aperture iridescent.

Distribution and behaviour: Under stones in low intertidal zone, herbivores, common.

Economic importance: For decoration (Figure 3)



Figure 3: Euchelus asper (Gmelin, 1791)

### **Nerita textilis (Gmelin, 1791)**

Class: Gastropoda

Order: Archaeogastropoda

Family: Neritidae

English Name: Textile nerite

Color: Blue, black

Feature characters: Depressed spire, large body whorl, coarse and

Spiral cords, columella is granular and yellowish 2-3 denticles, outer lip is denticulated.

Distribution and behaviour: On sandy and gravel substrates in Low tide and midtide zone, Herbivores, common.

Economic importance: Edible (Figure 4)



Figure 4: Nerita textilis (Gmelin, 1791)

### **Turritella fultoni (Melvill, 1897)**

Class: Gastropoda

Order: Mesogastropoda

Family: Turritellidae

English Name: Turritella

Color: white and cream

Feature characters: Very deep and distinct suture, body cylindrical

Strong spiral, ridges around the whorls with weaker ones between.

Distribution and behaviour: on sandy and muddy bottoms in low, mid and high tide zone, Herbivores and detritus feeders very common.

Economic importance: for decoration (Figure 5)



**Figure 5:** *Turritella fultoni* (Melvill, 1897)

***Natica vitelius* (Linnaeus, 1758)**

Class: Gastropoda

Order: Mesogastropoda

Family: Naticidae

English Name: Calf Moon

Color: White with 2 orange wide bands.

Feature characters: Strong globose, short spire, very deep umbilicus, fine axial striations cover entire shell, spiral bands

Converge to a deep purple dot, aperture is white.

Distribution and behaviour: On sandy bottom in low tide Carnivores, uncommon.

Economic importance: For decoration (Figure 6)



**Figure 6:** *Natica vitelius* (Linnaeus, 1758)

***Polinices tumidus* (swain son, 1840)**

Class: Gastropoda

Order: Mesogastropoda

Family: Naticidae

English Name: pear-shaped moon

Color: white

Feature characters: very solid, almost flat spire, large body whorl, Horny operculum, thick white callus closed the umbilicus

Distribution and behaviour: on sandy bottom in low tide zone, Carnivores, Rare.

Economic importance: for decoration (Figure 7)



Figure 7: Polinices tumidus (swain son, 1840)

### Oliva Olive (Linnaeus, 1758)

Class: Gastropoda

Order: Neogastropoda

Family: olividae

English Name: common olive

Color: Greyish green, white.

Feature characters: shiny narrow aperture, outer lip is thick, color bands on surface, 3 weak fold on columella, elongated Apex.

Distribution and behaviour: on gravel and sandy bottoms in

Mittide and low tide zone carnivores, common.

Economic importance: for decoration, Edible (Figure 8)



Figure 8: Oliva Olive (Linnaeus, 1758)

### Gemmula Unedo (Kiener, 1839)

Class: Gastropoda

Order: Neogastropoda

Family: Turridae

English Name: intricta turrid

Color: cream with brown spots. Spirally ridge

With brown and white dashes on surface, deep turrid notch, relatively long siphon, strongly keeled at the shoulder whorl

Distribution and behaviour: on sandy bottom in sub tidal carnivores, uncommon. Importance: for decoration (Figure 9)



**Figure 9:** *Gemmula unedo* (Kiener, 1839)

***Barbatia abliquata* (wood, 1828)**

Class: bivalvia

Order: Arcoida

Family: Arcidae

English Name: oblique ark

Color: Reddish brown.

Feature characters: Arched hinge, external ligament,

Taxodont, no, no, no pallial sinus, radial conectric riblets.

Distribution and behaviour: in crevices of rocks and stones in low tide and sub tidal zone, filer feeder, common.

Economic importance: Edible (Figure 10)



**Figure 10:** *Barbatia abliquata* (wood, 1828)

***Trisidos tortuosa* (Linnaeus, 1758)**

Class: bivalvia

Order: Arcoida

Family: Arcidae

English Name: Half propeller ark

Color: white, yellow, orange, pink

Feature characters: Equivalve, ends of valves twisted,

Taxodont, hinge is straight, external ligament, radial

Ridges which crossed fine concentric ribs.

Distribution and behaviour: on sandy and muddy bottoms In midtide and low tide zone filter feeder Rare

Economic importance:- (Figure 11)



Figure 11: *Trisidos tortuosa* (Linnaeus, 1758)

### ***Glycymeris Pectunculus Maskatensis* (Melvill, 1897)**

Class: bivalvia

Order: Arcoida

Family: Glycymeridae

English Name: com.b Bitter sweet.

Color: white with brown marks.

Feature characters: Equivalve, round, central umbo, coarse radiating ridges (crossed by fine concentric Striations arched hinge line, relatively large teeth, no Pallial sinus.

Distribution and behaviour: on sandy bottom in low tide Zone, filter feeder, uncommon.

Economic importance: Edible (Figure 12)



Figure 12: *Glycymeris pectunculus Maskatensis* (Melvill, 1897)

### ***Cardita Bicolor* (Lamarck, 1822)**

Class: bivalvia

Order: veneroida

Family: carditidae

English Name: wide ribbed cardita.

Color: creamy white with brown Blotches.

Feature characters: Relatively train gular, Equivalve

Pallial sinus, strong radial ribs with narrow inter spaces, 2 cardinal teeth in one valve, interior is white.

Distribution and behaviour: on sandy bottom in midtide and Low tide zone, filter feeder, common.

Economic importance: Edible (Figure 13)



Figure 13: *Cardita bicolor* (Lamarck, 1822)

### ***Circenita Callipyga* (born, 1778)**

Class: bivalvia

Order: veneroida

Family: veneridae

English Name: pretty bocked Venus.

Color: varied in colors.

Feature characters: thick shell, equivalves, in equilateral Concentric ribs being strong or almost smooth.

Distribution and behaviour: on gravel and sandy bottoms in Low tide and mid tide zone, filter feeder, uncommon.

Economic importance: for decoration (Figure 14)



Figure14: *Circenita callipyga* (born, 1778)

### ***Cypraea Gracilis Notata* (Gill, 1858)**

Class: Gastropoda

Order: Mesogastropoda

Family: cypraeidae

English Name: Graceful cowrie

Color: small, base spotted and purple staining of Both end, terminal dark brown spots in two sides.

Distribution and behaviour: under rocks in low tide zone, Herbivores and carnivores, Rare.

Economic importance: for decoration (Figure 15)





Figure 15: cypraea gracilis notata (Gill, 1858)

### **Thais Bufo (Lamarck, 1822)**

Class: Gastropoda

Order: Neogastropoda

Family: Muricidae

Feature and color: Heavy, ovate, low spired- last Whorl occupying most of shell Narrow, deep posterior canal: thick, broad parietal callus, columella has slight Thick at base. Outer lip toothed 3 large teeth at its base. Aperture livate within large, widely spaced Nodules, 4 or 5 spiral rows on last whorl, prominent at periphery Flate, spiral cord between rows. No umbilicus. Dark or light brown. Paler between Nodules. Sutures, columella and aperture. White or pinkish, edge of outer lip brown betweenTeeth, operculum semilunar.

Habitat: sides of rocks (Figure 16).



Figure 16: Thais bufo (Lamarck, 1822)

### **Babylonia Spirata (Linnaeus, 1758)**

Class: Gastropoda

Order: Neogastropoda

Family: Babyloniidae

English Name: spiral Babylon

Color: Heavy, ovate, last whorl very Inflated protoconch pointed, sutures deeply Channelled thick parietal callus Deep, narrow Posterior canal. Outer lip sharp and smooth, strongly Flexed at top, Greyish white with reddish brown or Orange crescents umbilical area bordered (Figure 17).



Figure17: Babylonia Spirata (Linnaeus, 1758)

### **Tornatina Inconspicua (Olsson and McGinty, 1958)**

Class: Gastropoda

Order: chephalaspidea

Family: cylichnidae

Color: Milky white when fresh.

Distribution and behaviour: Western Indian Ocean and Western Atlantic, Members of the order Cephalaspidea are mostly simultaneous hermaphrodites (Figure 18).

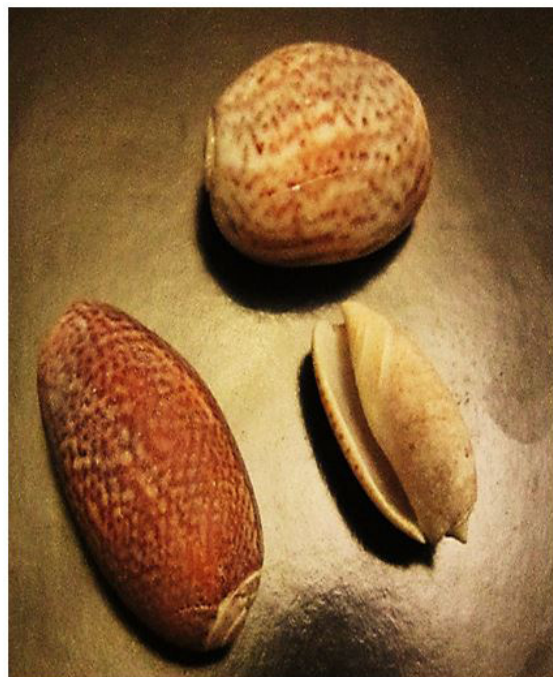


Figure 18: Tornatina inconspicua (Olsson and McGinty, 1958)

### **Cardites Bicolor (Lamarck, 1819)**

Class: Bivalvia

Order: carditida

Family: carditidae

Color: flat-topped Radial ribs, some anterior ribs with cross bars, posterior Ribs less development. Hing with long, arching posterior Cardinal. Inner margin deeply crenulate. Pallial line entire, color White with various amounts of brown. Black blotching. Habitat in coarse sand and gravels off shore.

Distribution: all (Figure 19)



Figure 19: *Cardites bicolor* (Lamarck, 1819)

### ***Dendrostrea Frons* (Linnaeus, 1758)**

Class: Bivalvia

Order: ostreida

Family: ostreidae

Color: Attachment is a variable, often With short clasper spines. Irregularly sub circular to Elongate. Both valves convex with up to 20 rounded folds, which are usually strongly developed at the margins where They inter lock. Sculpture smooth or weakly lamellose, Without pustules. Nodular chomata present near the hinge, Externally whitish but often shades of pink to blue, Internally lustrous, white to reflections of the outer color. Those at littoral tached to whip coral stems have a Longitudinal Ridge correspond ding in size to the stem.

Habitat: attached to rocks, corals and whip, corals mostly Sub littoral (Figure 20).



Figure 20: *Dendrostrea Frons* (Linnaeus, 1758)

### ***Trisidos tortuosa* (Linnaeus, 1758)**

Class: Bivalvia

Order: Arcida

Family: Arcidae

English name: *Arca tortuosa*

Color: very strongly twisted.

Median sinus deep posterior keel on left valve acute, on Right valve rounded.

Habitat: half buried on sandy Bottoms, offshore (Figure 21).



Figure 21: *Trisidos tortuosa* (Linnaeus, 1758)

## Methodology

Occasional gathering of 20 kinds of Shell Sea from the beaches of the Village Darak chababar, the appearance of shells that represents their very long time and Identify them from the Atlas of the Persian Gulf Molluskcs.

## Discussion

Just because the shell was observed in the area does not mean it was associated with a living specimen nearby. That shell could have drifted in on the tides or currents, therefore the use of that shell as an indicator is flawed.

20 samples of seashells I collected from the beaches of the village Darak of Chababar. The beautiful and untouched area of old seashell. I took photos of them and derived the information about the seashell from the Atlas of the Persian Gulf Molluskcs. I invite biologists and geologists to travel to the most intact and natural in Iran. Filled with beautiful rocks and seashell and Marine animals [5,8].

## Results

The purpose of collecting Shell Sea this is to show that shell of the village are similar to the shell of the Persian Gulf.

## Consent

Written informed consent was obtained for the publication of this report and any accompanying image.

## Authors' Contributions

The Atlas of the Persian Gulf Molluskcs book was used to identify shellfish, but another author did not contribute to writing this article.

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