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Research Article

Systematic of Recent Fauna in Shatt Al-Arab estuary

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ABSTRACT

In the present study recent fauna has been diagnosed by dual-lens microscope (Binocular microscope) in sediment core at six stations along Shatt Al-Arab estuary they are: Al-Qurna, Al-Deer, Al-Qarma, Al-Ashar, Abu-Alkasib and Al-Fao. It was found that Foraminefra such as *Ammonia baccarii, Ammonia tepida, Elphidium advenum, Elphidium crispum, Elphidium incerum, Quinqueloculina* and *Quniqueloculina seminula*; Ostracoda such as *Actinocythereis* sp and *Cyprideis torosa* and a lot of Mollusca such as *Theodoxus Jordani, Melanoides turberculata, Viviparus, Odostomia sp., Corbicula flumenia* and *Melanopsis nodosa*.

Keyword: Recent fauna; Shatt AL-Arab

INTRODUCTION

Most living organisms (animals, plants) decompose and rot after her death without leaving any trace even solid parts such as (bones and shells) can be decomposed as a result of the movement of water or dissolved by chemical materials. But it can become fossilised and reservation when imbedding in sediments, because they will be kept unchanged in the forms and remain the province of the chemical composition of the original material constituents, such as shells, snails, clams and some microorganisms such as Alforamnfra and Alaustrakuda. One of the main benefits of the study of fossils It is to identify the shape and pattern of the environment and the climate that prevailed during the period of the life of those neighbourhoods as well as it used fossils in correlation and determine the ages of geological rocks.

MATERIALS AND METHOD

The sediment core samples were taken from six sampling stations which represent different sector of Shatt Al-Arab estuary GPS instrument is used to fix the positions of these stations. They are : Al-Deer, Al-Qarma, Al-Qurna, Al-Ashar, Abo-Alkasib and Al-Fao as shown in Fig 1. Sediment cores (Acid washed PVC pipe of 1m lengthX10 cm diameter) were collected from six stations. The cores were inserted into the water-sediment interface and pushed to ensure that it reached maximum depth. The cores were slowly retrieved back, closed with its cover immediately and marked as to which is the upward direction . 50 grams of dry sample

was weighed and placed in Baker glass and added water and left for one day. Then, the sample was washed by using a sieve measuring (230 mesh), and drained; the remainder of the sample quantity has picked up fossils microscopic and has been isolated from plants and grains of sand and metal, then set in particular slides and examined by the dual-lens microscope (Binocular microscope).

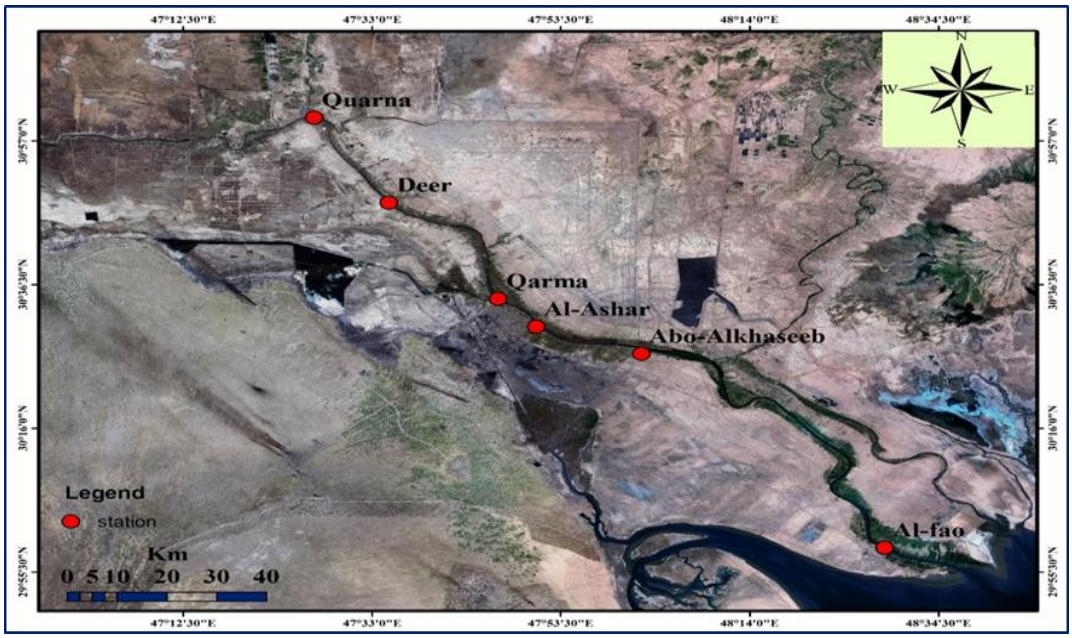

Fig.1: The study stations

RESULT AND DISCUSSION

There are three groups of fauna are identified in this study:

1. Order of Foraminifera:

(Foramen) the meaning of this word in Latin carrier holes and plural, which means hole, and used micro-fossils of Foraminifera in the field of oil exploration after World War I. There are many studies concerned with the relationship between foraminifera and pollution because it was considered the distribution foraminifera evidence of environmental pollution hydrocarbons and heavy elements [1, 2] and in the study [3] used the 24 kind of foraminifera in the Adriatic Sea and concluded that some species prefer environments unpolluted to a few of pollution, but other species such as (*Amonia tibeda*) they are the most tolerances of pollution, thus confirmed the possibility of the use of Foraminifera as an indicator of an environmental statement to the extent of contamination and some persistent organic pollutants, which originate from household and agricultural waste lead to increased numbers of foraminifera they contain nutrients for (phytoplankton) which in turn is an excellent source of Foraminifera; [4, 5] so when you preview the models of these fossils found that some of them mutilated, especially in the oil-contaminated areas (Al-Ashar, Al-Fao) compared with few pollution areas and this attributed to affected these shells in this oil residues that affect the forms and numbers and their locations, and it can use these shells as evidence of contamination has been confirmed. Ali *et al* 1998 [6] in her study when she found some species distorted in the Khor Al-Zubair and attributed the cause of the deformity to waste and waste from the fertilizer plant. Also it said that the reason for the existence of environmental change for most of the Shatt al-Arab components is the presence of oil residue. Also the geological range which extends from the Cambrian period to the recent period in the current study were diagnosed with some species.

-Foraminifera is systematic according to Leblich and Tappan (1988).

Kingdom: Protista

Phylum: Protozoa

Class: Rhizopoda

Order: Foraminifera

Sub order: Rotaliina Delage and Herourad, 1896.

Super family: Rotaliacea Ehrenberg,1839.

Family: Rotaliidea Ehrenberg,1839.
Sub family: Rotaliinae Ehrenberg,1839.
Genus: *Ammonia* Brunnich,1772.

***Ammonia baccarii* (Linne):** Plate1.Fig.1
***Ammonia tepida* (Cushman):** Plate1.Fig.2

Family: Elphidiidae Galloway, 1933.
Sub family: Elphidiinae Galloway, 1933.
Genus: *Elphidium* de Montfort,1808.

***Elphidium advenum* (Cushman):** Plate1.Fig.3,4
***Elphidium crispum* (Linne):** Plate1.Fig.5**,**6
***Elphidium incerum* (Cushman):** Plate1.Fig.7

Suborder: Milioli Delage and Herouard, 1896
Super family: Miliolacea Ehrenber,1839
Family: Miliolidae Ehrenberg, 1839
Sub family: Spiroloculininae Wiesner, 1920

***Quinqueloculina* Orbigny**
***Quniqueloculina seminula* (Linne)** : Plate1.Fig.8

2. Phylum of Mollusca are divided into class:

Extending from the Cambrian period to the recent and features abundant diversity [7] body consists of a soft part and this can be used to indicate the pollution .whereas that have the ability to absorb some of the contaminants at different rates and the accumulated in the muscles and tissues [8] this section covers the core of the structure is usually composed of calcium carbonate mineral calcite and Alorgunaat Authority [9]. Shell of molluscas are sensitive to changes in climate and environmental conditions, so they are used in many studies to reconstruct and understand the environment and climatic variations have said [10] that the change in the metal and colour composition overall pattern and plan the shells of molluscas associated direct environmental transformation [11]. Also, its importance in the understanding of sediment transport and deposition conditions and chemical variables in the environment operations have been diagnosed with the following types:

a. Class of Pelecypoda:
b. Class of Gastropoda:

The Mollusca are systematic according to (R. Tucker Abboott, 1974).
Phyium: Mollusca.
Class: Pelecypoda (Linne,1758).
Order: Nuculoida (Dall,1889).
Sub class: Palaeotoxodonta (Korobov,1954).
Super family: Corbiculacea (Gray,1847).
Family: Corbiculidae (Gray,1847).
Genus: *Corbicula*

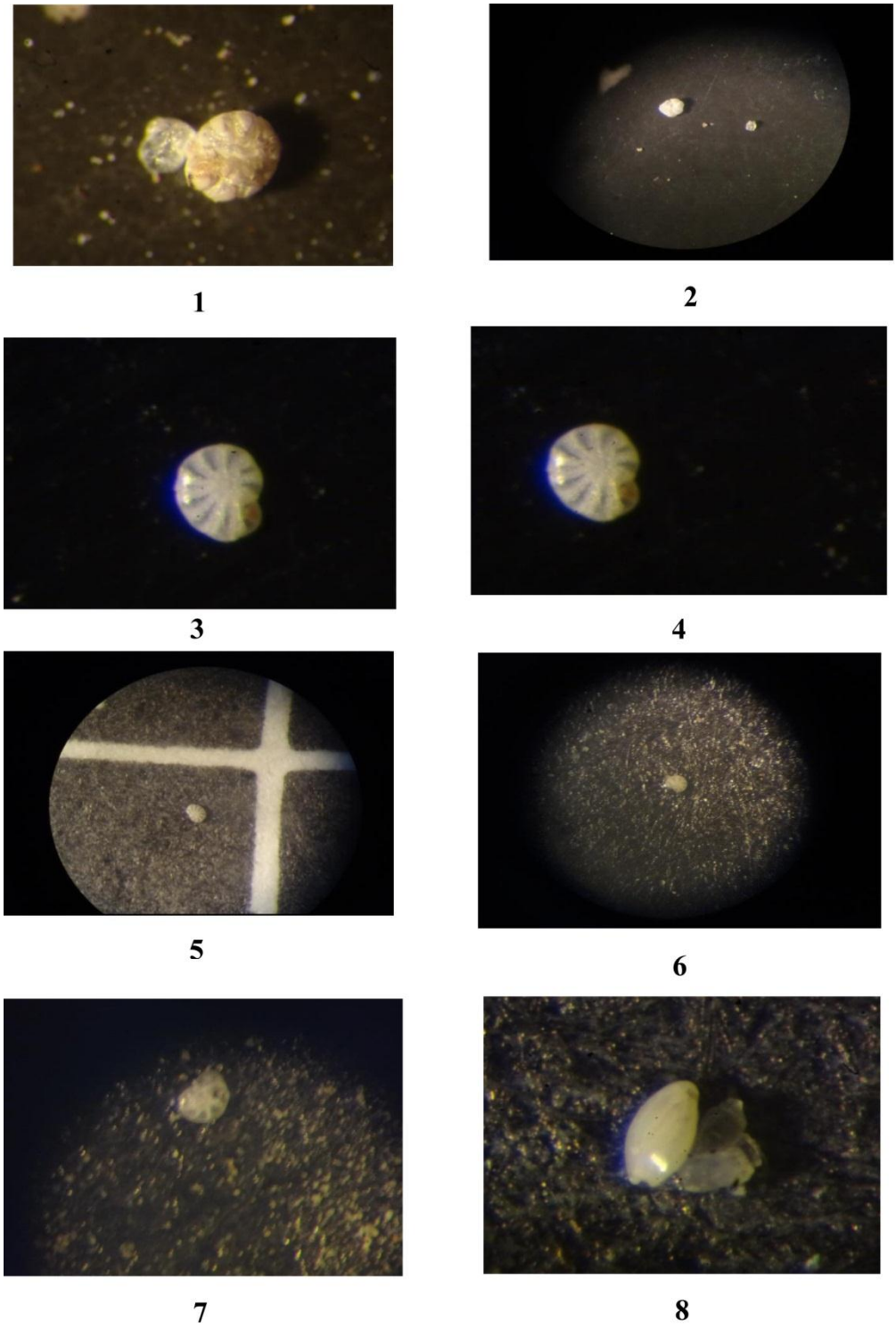

Plate: 1

Corbicula flumenia: Plate2.Fig.3

Class: Gastropoda (Cuvier,1797).
Sub class:Prosobranchia
(Milne-Edwards,1848).

Order: Archaeogastropoda (Thiele,1925)
Super Family: Rissoacea (Gray,1847).
Family: Rissoinidae (Stimpson,1865).
Genus: *Melanoides*

Melanoides turberculata: Plate2.Fig.4
Viviparus: Plate2.Fig.5

Super Family: Melaniacea (Ferussa).
Family: Melanidae (Stimpson,1865).
Genus: *Melanopsis*

Melanopsis nodosa: Plate2.Fig.6

Order: Pyramidelloida (Gray,1840).
Super Family: Pyramidellacea (Gray,1840).
Family: Pyramidellidae (Gray,1840).
Genus: *Odostomia*

Odostomia sp.: Plate2.Fig.7

Order: Archaeogastropoda (Thiele,1925)
Super family: Trochacea (Rafinesque,1815).
Family: Neritidae (Rafinesque,1815).
Genus: *Theodoxus*

Theodoxus jordani: Plate2.Fig.8

3. Ostracoda:

Is one of the most important microscopic crustaceans that live in different environments [12], as utilised in the Identification of environmental conditions [13, 14], whereas the existing of Shells in large numbers is the evidence of the quiet current in addition to the fast landfill led to be save without any change in the shape and composition whereas the existing of these shells in various stages of growth in the environment including the roles larval refers to the place of burial is the original environment therefore from the decoration and shape and size of shells can be identified by the environmental conditions that existed at the time of its life [11]. Moreover, from existing of Oustracoda gatherings in a specific area inference of water quality in the study area whether fresh, salty or mixed [14,15] and the environment ideal for species that found in the this study is the hybrid environment (brackish water).

Ostacoda are systematic according to Moor and Pitrat, 1961)
Kingdom: Animalia
Phylum: Arthropoda
Super Phylum: Crustacea
Class: Ostracoda Latrreille,1808.
Sub class: Podocoa Muller,1894.
Order: Podocopida Muller,1894.
Sub order: Podocopina Sars, 1866.
Super family: Trachyleberidinae Sylverster-Brdley, 1948.
Genus: *Actinocythereis* Puri.

Actinocythereis sp: Plate2.Fig.1
Family: Cythercea Baird,1850.
Sub family: Cytherideinae Sars,1925.
Genus: *Cyprideis* Jones.
Cyprideis torosa: Plate2.Fig.2

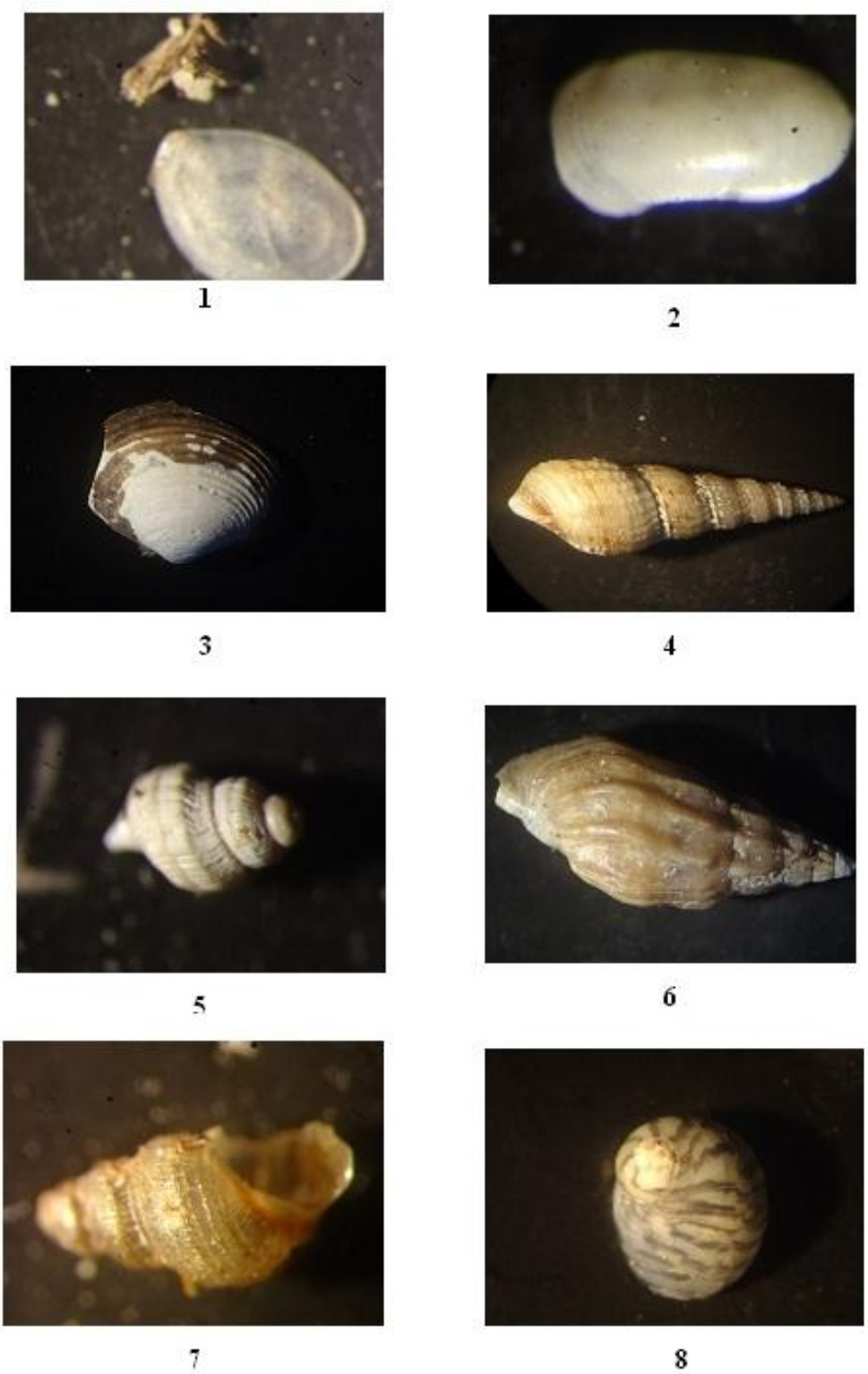

Plate: 2

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