

First record of six shark species in the territorial marine waters of Iraq with a review of cartilaginous fishes of Iraq

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Abstract- During collection of some marine fishes from Khor Al-Ummaia at territorial Iraqi waters, north-west Arabian Gulf, six shark species were recorded for the first time in Iraq. These are: sand tiger shark *Carcharias taurus* Rafinesque, 1810, hooktooth shark *Chaenogaleus macrostoma* (Bleeker, 1852), Arabian smooth-hound *Mustelus mosis* Hemprich & Ehrenberg, 1899, milk shark *Rhizoprionodon acutus* (Rüppell, 1837), Grey sharpnose shark *R. oligolinx* Springer, 1964, and zebra shark *Stegostoma fasciatum* (Hermann, 1783). The systematic characters for each species are given. The historical records of elasmobranchs of Iraq is reviewed and discussed. The present records bring the total number of shark species in Iraq to 17 species.

Key words: Chondrichthyes, Sharks, first record, marine water, Iraq.

Introduction

Approximately 500 skates and rays and about 400 sharks, are known from marine, estuarine and freshwater systems of the world (Last and Stevens, 1994). The vast majority of cartilaginous fishes occur in marine habitats, with about 5% of the known species occur in freshwater environments (Compagno, 1990). Only 26 sharks belonging to eight families were found in the Arabian Gulf (Moore *et al.*, 2012a).

Many taxonomic studies were designed for the marine fishes of the Arabian Gulf, but regarding Iraqi marine waters few attempts were achieved but unfortunately most of them depended on records from other regions and were not based on actual collection of the specimens from the same area (Mohamed *et al.*, unpubl.). Furthermore diversity and distribution of shark fauna of the Arabian Gulf is poorly documented (Moore *et al.*, 2010). Khalaf (1961) gave an account on marine and freshwater fishes in Iraq, in which he demonstrated three shark species (*Carcharias gangeticus*, *C. lamia* and *C. menisorrah*) and one ray (*Myliobatus aquila*). Mahdi (1962) also documented these four cartilaginous fishes. Mazhar (1966) reported three sharks (*C. menisorrah*, *Chiloscyllium gresium* and *Scoliodon palasorrah*) and four rays (*Rhinobatus granulatus*, *Dasyatus gerrardi*, *D. uarnak* and *D. walga*).

Mahdi and Georg (1969) compiled a list of vertebrates of Iraq with 340 fishes which included 15 rays and 11 sharks in Iraq. Mahdi (1971) added

Rhina ancylostoma, *Rhinobatus annulatus*, *Rhynchobatus djeddensis* and *R. granulatus*. Al-Daham (1974) recorded *Sphyrna tudes* and *Hemigaleus balfouri* for the first time in Iraq, but *S. tudes* is known only from both Atlantic and Pacific oceans and Mediterranean Sea (Froese and Pauly, 2012), so this is considered as wrong record of this species in the Gulf. Al-Daham (1976a) compiled a list of cartilaginous fishes in Iraq, and one year later, he used this list in Volume 1 of his monograph on fishes of Iraq and the Arabian Gulf (Al-Daham, 1977). Al-Daham (1976b) recorded a single male of sting ray *Teniura melanospilos* from the Iraqi marine waters. Al-Daham's (1982) list of ichthyofauna of Iraq and the Arabian Gulf, included 68 species of freshwater fishes in Iraq and 477 marine species in the Gulf, but he failed to distinguish marine fishes occurring in Iraqi territorial waters, however many species fall in synonyms of others and some species are in fact not found in the Gulf at all.

Hussain *et al.* (1988) compiled a list of 80 species of fishes collected from Khor Al-Zubair during 1984-1987, which included six sharks and seven rays. Coad and Al-Hassan (1989) recorded 11 attacks of Bullshark *Carcharhinus leucas* on the people in the Shatt Al-Arab river and the Al-Fao estuary. Hussain and Nama (1989) surveyed fishes from Khor Al-Zubair and collected 73 fish species which included six sharks and seven rays. Mohamed *et al.* (unpubl.) surveyed marine fishes in Iraqi territorial waters between 1989-1990 and found 86 species including six sharks and five rays. Fricke and Al-Hassan (1995) described a new ray species *Raja pita* [accepted name *Okamejia pita* (Fricke and Al-Hassan, 1995)] from Arabian Gulf at Fao town. Mohamed *et al.* (2001) surveyed marine fishes in three stations in Shatt Al-Arab estuary during 1995-1999 and found 118 species including seven sharks and nine rays. Hussain *et al.* (2012) recorded *C. leucas* in the main off the drainage (MOD) at Thi Qar province, south of Iraq. Al-Shamary (2012) reported single specimen of whale shark *Rhincodon typus* from southern part of Shatt Al-Basrah canal. Due to the scarce information on taxonomic status of sharks and rays in Iraq, which they have important role in trophic pyramid of aquatic environment, the present article is designed to give more attention for these neglected animals in the region.

Materials and Methods

Twelve specimens of sharks, belonging to six species including five grey sharpnose sharks *Rhizoprionodon oligolinx*, two milk sharks *R. acutus*, two Arabian smooth-hounds *Mustelus mosis*, one sand tiger shark *Carcharias taurus*, one zebra shark *Stegostoma fasciatum* and one hooktooth shark *Chaenogaleus macrostoma* were collected by trawl net from Khor Al-Ummaia north-west Arabian Gulf (29° 50'-30° 10' N and 48° 30'-48° 45' E) during the period from February 2005 until September 2006.

Total length and weight for each specimen were measured. Fishes were identified according to Compagno (1983), Randall (1986) and Carpenter *et al.* (1997) and their scientific names followed Froese and Pauly (2012).

The specimens were photographed by Sony digital camera except *C. macrostoma* whose picture was obtained from M. Harris in Froese and Pauly (2012), as the original specimen was lost.

Results and Discussion

Six shark species were recorded for the first time in Iraq. The following is an account on their description.

1- *Carcharias taurus* Rafinesque, 1810 (Fig. 1).

Common name: sand tiger shark.

One juvenile female, 7125 gm weight, 113 cm total length was collected on 3rd May 2005.

Lamniformes, Odontaspidae: Large shark, pale brown in colour with so short snout, which has no barbels, five large gill slits close to pectoral fin, mouth large and wide with narrow angle in its anterior end. Eyes small, teeth, in three rows, on each jaw, large with sharp end and pointed. Lower teeth strongly hooked cusps that prominently protrude from mouth when it is closed. Dorsal fins equal in their length and equal to pelvic fin, base of first dorsal fin anterior to that of pelvic fin and too behind pectoral fin. Caudal fin short and with sub terminal notch with short ventral lobe and prominent pit found on dorsal side of connection point between peduncle with caudal fin.

Compagno (1983) placed this shark in the genus *Eugomphodus* instead of *Odontaspis* on the basis of some morphological and anatomical differences between two genera and his key distinguished between them. Hence the Odontaspidae might comprise four species in two genera, although he was confused about the validity of *E. tricuspoidatus*, an inadequately described species, and it is probably synonymous with *E. taurus*. Randall (1986) remained this shark in the genus *Odontaspis* and gave comment on the three species in the family placed early in the genus *Carcharias*, but the International Commission on Zoological Nomenclature (ICZN) revalidated *Cracharias* in 1987 (Krupp *et al.*, 2000). Now *C. taurus* has 20 synonyms belonging to genera *Carcharhinus*, *Carcharias*, *Eugomphodus*, *Lamna*, *Odontaspis* and *Squalus* (Froese and Pauly, 2012). Until recently, this shark was not known from Arabian Gulf, when Krupp *et al.* (2000) recorded one specimen in the Gulf, although Goubanov and Shleib (1980) showed that this shark was encountered to Kuwaiti waters during spring and summer without providing any material. Hence this is the second record of this shark in the Gulf and the first record in the territorial Iraqi waters. Moore *et al.* (2007) defined misidentification of *C. taurus* after examining a photograph of the anterior part of 3m female great white shark *Carcharodon carcharias* of Khalaf (1987) from Kuwait coast.



Figure 1. *Carcharias taurus*.

2- *Chaenogaleus macrostoma* (Bleeker, 1852) (Fig. 2)

Common name: hook tooth shark.

One male, 530 gm weight, 55.5 cm total length was collected on 7th February 2005.

Carcharhiniformes, Hemigaleidae: Small shark, with long wedge-like snout, pointed at its tip and longer than mouth's width. The mouth is long and parabolic. Labial furrows present on the sides of mouth, five, very long gill slits and larger than twice of eye diameter. Teeth of upper jaw triangle with angular notch on posterolateral side and sharp cusplets on lower half of them. Teeth appear outside of mouth when it is closed. Lower teeth slender, smooth edged incurved cusplets. First dorsal fin larger than the second one and upper edge of both were rounded. The origin of the first dorsal fin slightly anterior to inner posterior corner of pectoral fins. Origin of second dorsal fin slightly anterior of anal fin. The latter smaller than the second dorsal. Crescent pit present in dorsal side of peduncle- caudal fin connection.

Compagno (1983) distinguished Hemigaleidae from Carcharhinidae by the presence of spiral valve in the former and scroll valve in the latter. Three species, belong to three genera, of Hemigaleidae are found in the Arabian Gulf (Carpenter *et al.*, 1997). *Chaenogaleus* is distinguished from other genera in the family by having obtusely wedged-shaped snout in dorsoventral view in comparison with blunt rounded snout in *Hemipristis* and narrow snout in *Paragaleus*. Lower teeth with long cusp hook and smooth in comparison with long, stouter cusps with cusplet in *Hemipristis*, and short smooth and T- shaped in *Paragaleus*. Fin not falcate, posterior margin of pectoral and pelvic fins straight or slightly concave in comparison with deeply concave one in *Hemipristis* and fins less falcate in *Paragaleus* (Compagno, 1983; Carpenter *et al.*, 1997). Maximum length recorded 100 cm, size at birth 20 cm (Froese and Pauly, 2012).

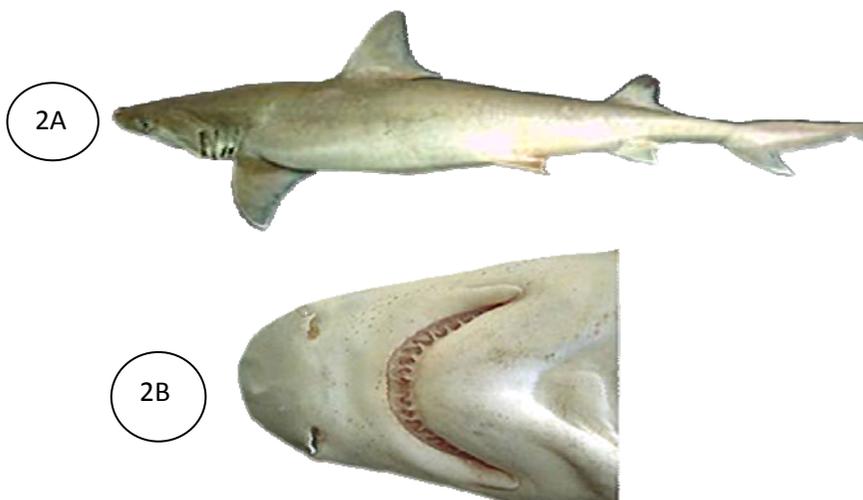


Figure 2. *Chaenogaleus macrostomus*. A: Whole, B: head, ventral view.

3- *Mustelus mosis* Hemprich & Ehrenberg, 1899 (Fig. 3)

Common name: Arabian smooth-hound.

One male and one female, 601.5 and 1134 gm respectively, weight, 77 and 79 cm total length, respectively were collected on 7th February 2005.

Carcharhiniformes, Triakidae: Small sharks, elongated body, with dorsoventrally flattened head. Snout relatively long with narrow and rounded end with hypercalcified snout. Large eyes, five gill slits, last two above pectoral fin. Labial furrows fair in length, the upper one equal to the lower. Teeth in both jaws are small molariform. First dorsal fin relatively equal to the second one and it is situated between origin of pectoral and pelvic fins. The second dorsal fin is larger than the anal fin and much far from pelvic fin origin and anterior to anal fin. Caudal fin has ventral lobe larger than terminal one. Interdorsal ridge is present. Grey with black upper parts of all fins except pelvic and anal fins.

Triakidae contains six species in the western Indian ocean (Compagno, 1983), two species, in two genera, are found in the Arabian Gulf- and Gulf of Oman region (Carpenter *et al.*, 1997).

Mustelus differs from *Hypogaleus* by the presence of interdorsal ridge (absent in the latter) and molariform teeth (blade-like teeth in the latter). Presence hypercalcified rostrum (absent in the latter), both dorsal fins are equal (the first dorsal is larger than the second one in the latter). Compagno (1983) confirmed the occurrence of this species in the western Indian Ocean area instead of *M. monazo* non Bleeker, 1854, which is commonly used erroneously as endemic species in the area.

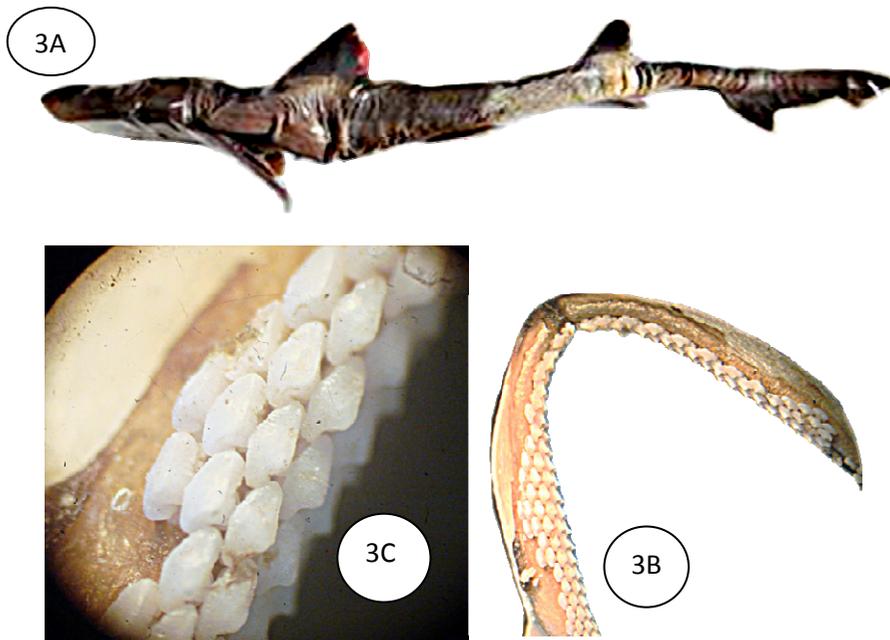


Figure 3. *Mustelus mosis*. A: Whole, B: Jaw, C: Teeth.

4- *Rhizoprionodon acutus* (Rüppell, 1837) (Fig. 4)

Common name: milk shark.

One male and one pregnant female, 530 and 2531 gm weight, 55 and 77 cm total length respectively were collected on 25th June 2005.

Carcharhiniformes, Carcharhinidae: Small size shark with long and compressed snout. The snout length is larger than its width and larger than width of mouth. 12 and 13 hypomandibular pores (large pores above the corner of the mouth on each side). Eyes without posterior notch. Labial furrows rather long, the upper ones about equal to diameter of eye. Teeth similar in both jaws, highly diagonal blade-like cusp, the basal part of the notch convex with larger serrae. Origin of first dorsal fin with same vertical level of edge of pectoral fin. Second dorsal fin smaller than anal fin and its origin is posterior to mid base of anal fin. Anal fin has pair of preanal ridges. Bronzish in colour, whitish ventrally, fins more darker.

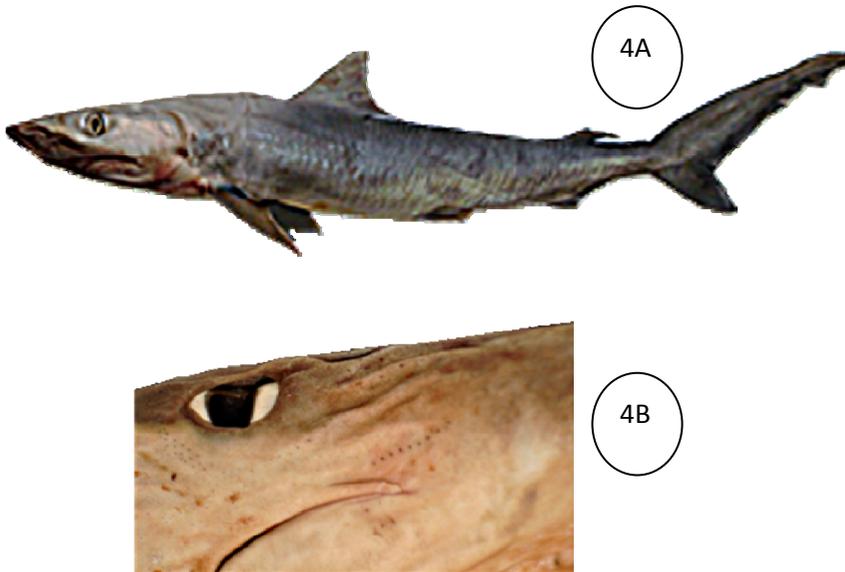


Fig. 4. *Rhizoprionodon acutus*. A: Whole, B: Head, ventroletral view, Note distinct labial furrow and hypomandibular pores.

5- *Rhizoprionodon oligolinx* Springer, 1964 (Fig. 5)

Common name: grey sharpnose shark.

Two males and three females, 530, 947, 527, 560 and 947 gm weight, respectively, 47, 55, 46, 50 and 55.5 cm total lengths, respectively were collected on 25th June 2005 except for the last male which was collected in 12th September 2005.

Carcharhiniformes, Carcharhinidae: Small size shark with long and compressed snout. Snout larger than its width and larger than width of mouth. Six and seven hypomandibular pores (large pores above corner of

mouth on each side). Upper labial furrows very short, much smaller than eye diameter. Teeth similar in both jaws and similar with in *R. oligolinx*. Origin of first dorsal fin with same vertical level of edge of pectoral fin. Second dorsal fin smaller than anal fin. Anal fin has a pair of preanal ridges. Grey-brownish with white ventrally.

Carcharhinidae contains ten genera in the west Indian Ocean (Compagno, 1983), and five genera and 16 species in the Arabian Gulf (Moore *et al.*, 2012a). *Rhizoprionodon* is so similar to *Loxodon* by having second dorsal fin origin well behind anal fin origin, over or slightly anterior to anal fin insertion, presence of long labial furrows, but the former differs from the latter by absence of posterior notches on eyes (Compagno, 1983). Two species of *Rhizoprionodon* are recorded here for the first time in Iraq in the present study viz. *R. acutus* and *R. oligolinx*. The former differs from the latter by having labial furrows equal to eye diameter in comparison with the short one in the latter. Maximum length 178 cm, but almost not exceeding on 110 cm (Randall, 1986). Adults of *R. acutus* measuring at 68 to 72 cm. size of birth 30 to 35 cm (Compagno, 1983). The births from females of *R. acutus* of the present study fall in the recorded length range and male consider Immature. Adult of *R. oligolinx* measures 29-41cm (Randall, 1986). Hence all five specimens are considered as adults.

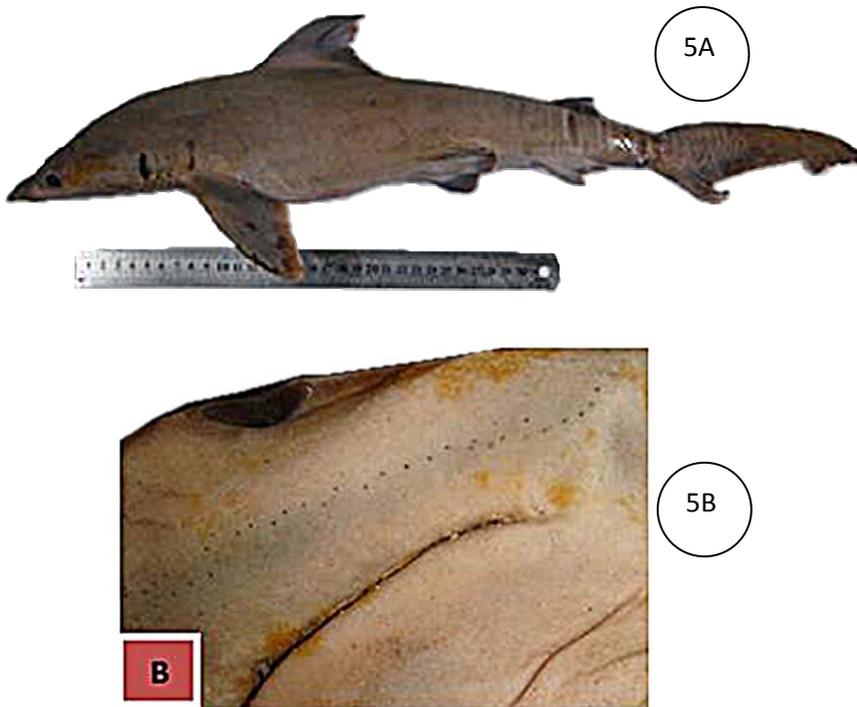


Fig. 5. *Rhizoprionodon oligolinx*. A: whole, B: Head, ventroletral view, Note short labial furrow and hypomandibular pores.

6- *Stegostoma fasciatum* (Hermann, 1783) (Fig. 6)

Common name: zebra shark.

One juvenile female, 3003 gm, 101.5 cm total length was collected on 15th July 2005.

Orectolobiformes, Stegostomatidae: Large shark with remarkable median dermal ridge and two longitudinal ridges on each side. Head has five gill slits, two of them are situated before origin of pectoral fin. Snout very short, broad and rounded. Mouth short and much anterior from eye level. Eyes are small, lateral on head. Spiracle behind eyes directly. Teeth just in lower jaw small, tricuspid and the central one larger than the other. First dorsal fin as twice as large as the second fin and reaches to pelvic fin level. Pelvic and anal fins are rounded. Origin of anal fin posterior to second dorsal fin. Caudal fin without lower lobe very long, as long as half of the body length. Yellow with numerous black oval spots, white ventrally.



Fig. 6. *Stegostoma fasciatum*.

This shark is called zebra shark or leopard shark for large sizes, because smaller sizes (juveniles) have black bands similar to that of zebra, and with advance in growth the background among bands extends and being black spots and the shape become like leopard, but the name zebra shark mostly used (Compagno, 1983; Froese and Pauly, 2012). Randall (1986) and Carpenter *et al.* (1997) used the name *S. varium* (Seba, 1758), while Compagno (1983), Bonfil and Abdullah (2004) and Froese and Pauly (2012) used *S. fasciatum*. The shape and pattern of bands on the body reveal intermediate size in this specimen and considered it as a juvenile.

It is clear that taxonomic studies on Elasmobranches in Iraq were in its early stages and many confused or misidentified reports are existed. At the present time only 17 sharks species and 18 skates or rays may be accept as valid recorded in Iraq, while 12 shark species and three ray species are misidentified or questionable or synonymous recorded in the existing literatures (Table 1).

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Table 1. Check-list of elasmobranches in Iraq, with their present systematic status and remarks on some species.

Scientific name	References	Systematic status	Remarks
<i>Carcharhinus brevipinna</i> (Müller & Henle, 1839)	Mohamed <i>et al.</i> (unpubl.)	valid	
<i>Carcharhinus dussumieri</i> (Valenciennes, 1839)	Hussain <i>et al.</i> (1988), Hussain and Nama (1989), Mohamed <i>et al.</i> (2001), Ali (2008)	valid	
<i>C. leucas</i> (Valenciennes, 1839)	Hussain <i>et al.</i> (1988), Al-Hassan <i>et al.</i> (1989), Coad and Al-Hassan (1989), Mohamed <i>et al.</i> (unpubl.), Mohamed <i>et al.</i> (2001), Hussain <i>et al.</i> (2012)	valid	
<i>C. limbatus</i> (Valenciennes, 1839)	Hussain and Nama (1989); Mohamed <i>et al.</i> (unpubl.), Mohamed <i>et al.</i> (2001), Ali (2008)	valid	
<i>C. melanopterus</i> (Quoy & Gaimard, 1824)	Hussain <i>et al.</i> (1988), Hussain and Nama (1989)	valid	
<i>C. menisorrhah</i> (Müller & Henle, 1839)	Khalaf (1961), Mahdi (1962), Mazhar (1966), Mahdi and Georg (1969), Mohamed <i>et al.</i> (unpubl.), Mohamed <i>et al.</i> (2001)	invalid	Complex species comprises four species <i>C. amblyrhynchos</i> , <i>C. dussumieri</i> , <i>C. falciformis</i> and <i>C. sealei</i> (Froese and Pauly, 2011).
<i>C. sorrah</i> (Müller & Henle, 1839)	Mohamed <i>et al.</i> (2001), Ali (2008)	valid	Ali (2008) identified two specimens of <i>C. sorrah</i> as <i>C. macloiti</i> , but after reexamination of the specimens by the present author, both specimens have interdorsal ridge and this character with others are found in <i>C. sorrah</i> .
<i>C. spallanzani</i> (Péron & Lesueur, 1822)	Al-Daham (1977, 1982)	synonym	Moore <i>et al.</i> (2012a) refer that <i>C. spallanzani</i> was considered as a synonym of <i>C. melanopterus</i> (Quoy & Gaimard, 1824), while Froese and Pauly (2012) refer that <i>C. spallanzani</i> was considered as synonym of <i>C. sorrah</i> (Müller & Henle, 1839).
<i>Carcharias gangeticus</i> Müller & Henle, 1841	Khalaf (1961), Mahdi (1962), Mahdi and Georg (1969), Al-Daham (1977)	synonym	See <i>Glyphis gangeticus</i> (Müller <i>et al.</i> Henle, 1839)

Table 1. Continued.

Scientific name	References	Systematic status	Remarks
<i>Carcharias lamia</i> Rafinesque, 1810	Khalaf (1961) Mahdi (1962)	synonym	Moore <i>et al.</i> (2007) confirmed that <i>Carcharias carcharias</i> of Khalaf (1987) is misidentified of <i>C. taurus</i> , (not found in the Gulf).
<i>C. palasorrah</i> (Cuvier, 1829)	Mahdi and Georg (1969)	synonym	Moore <i>et al.</i> (2012a) refer that <i>C. palasorrah</i> is considered as a synonym of <i>R. acutus</i> (Ruppel, 1837).
<i>Carcharias taurus</i> Rafinesque, 1810	Ali, 2008	valid	
<i>Chaenogaleus macrostoma</i> (Bleeker, 1852)	Ali (2008)	valid	
<i>Chiloscyllium arabicum</i> Goubanov, 1980	Hussain <i>et al.</i> (1988), Ali (2008)	valid	
<i>Chiloscyllium griseum</i> Müller & Henle, 1838	Mazhar (1966), Al-Dubaikel (1986), Hussain <i>et al.</i> (1988), Mohamed <i>et al.</i> (unpubl.), Mohamed <i>et al.</i> (2001)	valid	
<i>Eusphyra blochii</i> (Cuvier, 1816)	Mahdi and Georg (1969), Al-Daham (1977)	not found in the Gulf	Recorded as <i>Sphyrna blochi</i> , but it is not found in the Gulf (Compagno, 1983; Moore <i>et al.</i> , 2012a).
<i>Glyphis gangeticus</i> (Müller & Henle, 1839)	Khalaf (1961), Mahdi (1962)	uncertain	Both authors recorded this shark as <i>Carcharius gangeticus</i> , but according to Compagno (1983), it is probably recorded off Pakistan and possibly in the Gulf, as it is confused with bull shark <i>C. leucas</i> . Moore <i>et al.</i> (2012a) considered Mahdi's (1962) record for this shark from Tigris river far upstream as Baghdad misidentified with <i>C. leucas</i> .
<i>Hemigaleus balfouri</i> (Day, 1878)	Al-Daham (1974)	misidentification	Only three shark species from Hemigaleidae are known in the Gulf, this may be confused with <i>Chaenogaleus macrostoma</i> (See Carpenter <i>et al.</i> , 1997).

Table 1. Continued.

Scientific name	References	Systematic status	Remarks
<i>Mustelus manazo</i> Bleeker, 1857	Mahdi and Georg (1969), Al-Daham (1977, 1982)	misidentification	See remarks of <i>M. mosis</i> of this study.
<i>M. mosis</i> Hemprich & Ehrenberg, 1899	Ali (2008)	valid	
<i>Rhincodon typus</i> Smith, 1828	Mahdi and Georg (1969), Mahdi (1971), Al-Shamary (2012)	valid	
<i>Rhizoprionodon acutus</i> (Ruppel, 1837)	Ali (2008)	valid	
<i>R. oligolinx</i> Springer, 1964	Ali (2008)	valid	
<i>Scoliodon laticaudus</i> Müller & Henle, 1838	Mazhar (1966)	valid	Recorded as <i>Scoliodon palasorrah</i> (Bleeker, 1853)
<i>Sphyrna lewini</i> (Griffith & Smith, 1834)	Al-Daham (1977)	not found in the Gulf	Moore (2012a) recorded a single specimen of this shark (based on a diagnostic photograph taken at fish market) in the Gulf at a fish market in Qatar, but one does not know if this specimen was collected from the Arabian Gulf or Gulf of Oman (many similar studies discussed this problem previously as indicated by Randall <i>et al.</i> (1994).
<i>Sphyrna mokarran</i> (Ruppel, 1837)	Mohamed <i>et al.</i> (2001), Ali (2008)	valid	
<i>Sphyrna tudes</i> (Valenciennes, 1822)	Al-Daham (1974, 1977)	misidentification	May be <i>S. mokarran</i> . Moore <i>et al.</i> (2012a) showed that the photo of shark's head of Al-Daham (1974) is similar to <i>S. lewini</i> , but it was uncompleted photo and was reported in the northwestern part of the Gulf. So, it needs confirmation (Moore <i>et al.</i> , 2012a).
<i>Sphyrna zygeana</i> (Linnaeus, 1758)	Al-Daham (1977), Mohamed <i>et al.</i> (unpubl.)	misidentification	This species is known from Gulf of Oman, but its record from the Gulf was doubtful (Randall, 1995; Moore, 2012a). It is may be <i>S. mokarran</i> .
<i>Stegostoma fasciatum</i> (Hermann, 1783)	Ali (2008)	valid	

Table 1. Continued.

Scientific name	References	Systematic status	Remarks
<i>Aetomylaeus nichoffi</i> (Bloch & Schneider, 1801)	Hussain <i>et al.</i> (1988), Hussain and Nama (1989), Mohamed <i>et al.</i> (unpubl.), Mohamed <i>et al.</i> (2001)	valid	
<i>Anoxypristis cuspidata</i> (Latham, 1794)	Hussain <i>et al.</i> (1988), Hussain and Nama (1989)	valid	Recorded as <i>Pristis cuspidata</i> Latham, 1794 by Hussain <i>et al.</i> (1988), Hussain and Nama (1989).
<i>Glaucostegus granulatus</i> (Cuvier 1829)	Mazhar (1966), Mahdi (1971), Hussain <i>et al.</i> (1988), Mohamed <i>et al.</i> (unpubl.), Mohamed <i>et al.</i> , (2001), Ali (2008)	valid	All literatures recorded under name <i>Rhinobatus granulatus</i> Cuvier, 1829, However a very recent work in the Gulf still accepts the old name <i>R. granulatus</i> (See Moore <i>et al.</i> , 2012b)
<i>Gymnura poecilura</i> (Shaw, 1804)	Mohamed <i>et al.</i> (2001), Ali (2008)	valid	
<i>Himantura bleekeri</i> (Blyth, 1800)	Mohamed <i>et al.</i> (unpubl.), Ali (2008)	valid	
<i>Himantura gerrardi</i> (Gray, 1851)	Mazhar (1966), Hussain <i>et al.</i> , (1988), Hussain and Nama (1989), Mohamed <i>et al.</i> (2001), Ali (2008)	valid	All, except Ali (2008), recorded it as <i>Dasyatus gerrardi</i> (Gray, 1851), while Hussain and Nama (1989) recorded it as <i>Trygon gerrardi</i> Gray, 1851. This species is very rare and could not be found in recent extensive surveyed on elasmobranchs in the Gulf (Moore, Pers. Comm., 2012).
<i>Himantura imbricata</i> (Bloch & Schneider, 1801)	Hussain <i>et al.</i> (1988), Hussain and Nama (1989), Mohamed <i>et al.</i> (unpubl.), Mohamed <i>et al.</i> (2001)	valid	It was recorded under the genus <i>Dasyatus</i>
<i>Himantura randalli</i> Last, Manjaji & Moore, 2012	Ali <i>et al.</i> (2012)	valid	Very recently Last <i>et al.</i> (2012) described this new ray species which appears to be endemic to the Arabian Gulf. It has been frequently confused with forms of the more widely distributed whipray <i>H. gerrardi</i> (Gray, 1851). Ali <i>et al.</i> (2012) considered <i>H. gerrardi</i> reported by Ali (2008) conspecific with this species.

Table 1. Continued.

Scientific name	References	Systematic status	Remarks
<i>Himantura uarnak</i> (Forsskal, 1775)	Mazhar (1966), Al-Dubaikel (1986), Hussain <i>et al.</i> (1988), Hussain and Nama (1989), Mohamed <i>et al.</i> (unpub.), Mohamed <i>et al.</i> (2001)	valid	Mazhar (1966) recorded it under the genus <i>Dasyatus</i>
<i>Himantura walga</i> (Müller & Henle, 1841)	Mazhar (1966), Al-Dubaikel (1986), Ali (2008)	valid	Mazhar (1966) recorded it as <i>Dasyatus walga</i> . It is confused with <i>H. imbricata</i> in the Gulf (Moore, 2012).
<i>Mobula diabolus</i> (Shaw, 1804)	Hussain <i>et al.</i> (1988), Hussain and Nama (1989)	valid	
<i>Myliobatus aquila</i> (Linnaeus, 1758)	Khalaf (1961), Mahdi (1962)	uncertain	Not found in the Arabian Gulf (Froese And Pauly, 2012).
<i>Okamejei pita</i> (Fricke & Al-Hassan, 1995).	Fricke and Al-Hassan, (1995)	valid	
<i>Pastinacchus sephen</i> (Forsskal, 1775)	Hussain <i>et al.</i> (1988), Hussain and Nama (1989), Mohamed <i>et al.</i> (2001), Ali (2008)	valid	Recorded under the genus <i>Dasyatus</i> by Hussain and Nama (1989) and Mohamed <i>et al.</i> (2001) and under the genus <i>Hypolophus</i> by Hussain <i>et al.</i> (1988).
<i>Rhina ancylostoma</i> Bloch & Schneider, 1801	Mahdi (1971)	valid	
<i>Rhinobatus annulatus</i> Muller & Henle, 1841	Mahdi and Georg (1969), Mahdi (1971)	question	It's occurrence in the Gulf is questionable.
<i>Rhynchobatus djeddensis</i> (Forsskal, 1775)	Mahdi (1971), Mohamed <i>et al.</i> (2001)	valid	
<i>Teaniura melanospilos</i> Bleeker, 1853	Al-Daham, (1976b)	synonym	See <i>T. meyeri</i> Müller <i>et</i> Henle, 1841
<i>Teaniura meyeri</i> Müller & Henle, 1841	Al-Daham (1976b)	valid	Recorded as <i>Teaniura melanospilos</i> Bleeker, 1853.
<i>Torpedo panthera</i> Olfers, 1831	Mohamed <i>et al.</i> (2001)	valid	

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أول تسجيل لستة أنواع من القروش في المياه البحرية العراقية، شمال غرب الخليج العربي مع مراجعة للأسماك الغضروفية المسجلة في العراق

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المستخلص - سجلت خلال جمع عينات الاسماك البحرية من خور العمية في المياه البحرية العراقية، شمال غرب الخليج العربي، ستة انواع من القروش لأول مرة في العراق، شملت قرش النمر الرملي *Carchariaus taurus* Rafinesque, 1810 والقرش خطافي السن *Chaenogaleus macrostoma* (Bleeker, 1852) وقرش الحليب *Rhizoprionodon acutus* (Ruppell, 1837) والقرش الرمادي حاد الأنف *R. oligolinx* Springer, 1964 وقرش الكلب العربي الأملس *Mustelus mosis* Hemprich et Ehrenberg, 1899 وقرش حمار الوحش *Stegostoma fasciatum* (Hermann, 1738). حددت الصفات التصنيفية لكل نوع من القروش واستعرضت التسجيلات التاريخية للأسماك الغضروفية في العراق ونوقشت. بعد هذا التسجيل ارتفع العدد الكلي للقروش صحيحة التسجيل في العراق الى 17 نوعاً.