



**CONVENTION ON  
MIGRATORY  
SPECIES**

Distribution: General

UNEP/CMS/COP12/Doc.25.1.24(a)  
7 June 2017

Original: English

12<sup>th</sup> MEETING OF THE CONFERENCE OF THE PARTIES  
Manila, Philippines, 23 - 28 October 2017  
Agenda Item 25.1

**PROPOSAL FOR THE INCLUSION OF  
THE COMMON GUITARFISH (*Rhinobatos rhinobatos*) ON APPENDIX II  
AND THE MEDITERRANEAN SEA POPULATION OF THE SAME TAXON  
ON APPENDIX I OF THE CONVENTION**

Summary:

The Government of Israel has submitted the attached proposals\* for the inclusion of the Common Guitarfish (*Rhinobatos rhinobatos*) on Appendix II and the Mediterranean Sea population of the same taxon on Appendix I of CMS.

Proposals for the inclusion of the same taxon on Appendix II of CMS have been submitted independently by the Governments of Mauritania, Senegal and Togo. The related proposals are located in documents UNEP/CMS/COP12/Doc.25.1.24 (b), (c) and (d).

\*The geographical designations employed in this document do not imply the expression of any opinion whatsoever on the part of the CMS Secretariat (or the United Nations Environment Programme) concerning the legal status of any country, territory, or area, or concerning the delimitation of its frontiers or boundaries. The responsibility for the contents of the document rests exclusively with its author.

**PROPOSAL FOR THE INCLUSION OF THE COMMON GUITARFISH (*Rhinobatos rhinobatos*) ON APPENDIX II AND THE MEDITERRANIAN SEA POPULATION OF THE SAME TAXON ON APPENDIX I OF THE CONVENTION ON THE CONSERVATION OF MIGRATORY SPECIES OF WILD ANIMALS**

**A. PROPOSAL:**

This document includes two independent proposals; either or both of which can be adopted by the COP, as follows:

1. Inclusion of the entire global population of Common Guitarfish (*Rhinobatos rhinobatos*) in Appendix II of the Convention;
2. Inclusion of the Mediterranean Sea population of Common Guitarfish (*Rhinobatos rhinobatos*) in Appendix I of the Convention.

**B. PROPONENT:** Israel

**C.SUPPORTING STATEMENT**

**1. Taxonomy**

1.1	Class:	Chondrichthyes (Subclass: Elasmobranchii)
1.2	Order:	Rhinopristiformes
1.3	Family:	Rhinobatidae
1.4	Genus and Species:	<i>Rhinobatos rhinobatos</i> (Linnaeus, 1758)
1.5	Scientific synonyms	
1.6	Common name(s):	
	English	Common Guitarfish, Violinfish
	Spanish	Guitarra, Guitarra comùn, Guitarró
	French	Guitare de mer commune
	Hebrew	<i>Gítaran matzuy</i> גיטרן מצוי



**Figure 1.** *Rhinobatos rhinobatos*; illustration from Last et al. (2016).

**2. Overview**

*Rhinobatos rhinobatos* is a cartilaginous fish belonging to the elasmobranchs, Family Rhinobatidae and is endemic to the Mediterranean Sea and the eastern Atlantic Ocean. This species is distinguished by the presence of slightly enlarged pectoral fins with the anterior edge of the pectoral fin attached to the side of the head, wedge shaped disc, pointed triangular snout, and a dorsoventrally flattened body.

The global population was assessed by IUCN in 2007 and the Mediterranean Sea population was evaluated again in 2016; in both cases the species was classified as Endangered. The species is considered by IUCN as one of the most endangered fish species in the Mediterranean Sea. It has suffered severe declines and regional extirpation throughout its former range, mainly due to overfishing for locally consumed meat. Given the extreme population declines that the species has suffered, current population and migratory status is

difficult to determine, however it is clear that it would greatly benefit from better protection in the Mediterranean Sea, and from better regional and international co-operation to preserve the populations that remain in the Mediterranean Sea and in western Africa.

### 3. Migrations

#### 3.1 Kinds of movement, distance, the cyclical and predictable nature of the migration

Many species of guitarfish exhibit a seasonal migration pattern typically moving into near-shore shallow waters for parturition, i.e. to give birth. Along the coast of West Africa, regional fishers in Mauritania, Senegal, Guinea, Guinea-Bissau, and Sierra Leone synchronize fishing activities with the migration patterns and reproductive behavior of *R. rhinobatos*. Fishers will target this and other species of guitarfish when they migrate to shallow waters for parturition (Newell 2017).

Guitarfish exhibit a clear pattern of movement based on their reproductive cycle, as they aggregate seasonally, with females visiting relatively quiet shallow waters for parturition. This predictable migration pattern allows fishers the ability to target adults during this critical phase of their life cycle. For example, *Rhinobatos horkelii*, the critically endangered Brazilian guitarfish, will migrate to coastal waters with depths of less than 20 m from November to March to give birth (Lessa and Vooren 2007). This seasonal migration to shallow waters makes guitarfishes particularly vulnerable to gillnet and trawl fishing activities.

Similarly, in Israeli waters in the eastern Mediterranean, gravid female *R. rhinobatos* can be found predictably migrating into coastal shallow waters from mid-August to November for parturition; increased observations of neonates in shallow waters during this time confirms this too (B. Azrieli, unpublished data).

Movement from deeper waters to shallow areas is also well documented for other congeners, *R. productus* and *R. glaucostigma*, two guitarfish species found in the Gulf of California caught in bottom gillnets from March to June when gravid females migrate to shallower waters (Blanco-Parra et al. 2009).

While little species-specific information is currently available regarding *R. rhinobatos* migratory behavior within deeper waters, this information on other guitarfish species can be used to predict migratory behavior, with trawl surveys carried out off the coast of Sierra Leone indicating that this species moves northwards during the winter-spring seasons (Litinov 1993).

Fully understanding migratory patterns in this species is further hindered by declining population sizes, and by the fact that guitarfish tagging studies often report low recapture rates possibly as a result of high tag loss, and/or high induced tagging mortality (Dunlop et al. 2013). B. Newell (pers. comm) found no published reports of successful tagging studies of *R. rhinobatos*.

There are therefore no good data to determine to what extent seasonal and predictable migratory patterns also cut across international boundaries. However given the species former range throughout the Mediterranean, the seasonal migrations documented for *R. rhinobatos* throughout West Africa, it would be highly likely that there are cyclical crossings of international borders with the species entering and leaving international waters. The species occurs in many areas where international borders are relatively close together, so it is clear that when the species moves from within the deeper (international) waters and eventually to the shallower nursery grounds, that the crossing of international borders is quite likely. Even without conclusive evidence of migrations that cross international borders, there is little doubt that international cooperation under CMS within the Mediterranean Sea and along the west coast of Africa will benefit the conservation status of this endangered species.

#### 3.2 Proportion of the population migrating, and why that is a significant proportion

Gravid females, which apparently comprise about half the population, migrate to shallow

waters for parturition (to give birth) during seasonal migrations. This predictable seasonal migratory pattern makes the species very susceptible to declines from unregulated fishing.

#### 4. Biological data (other than migration)

##### 4.1 Distribution (current and historical)

Historically, *R. rhinobatos* has been present in waters down to about 100 m deep throughout the Mediterranean and in the sub-tropical regions of the eastern Atlantic from the Bay of Biscay down to Angola (Notarbartolo di Sciara et al. 2016). There are few historical fishery independent studies that examine the range of this species and much of what is known today about the past distribution comes from fishery landings data and historical collections.

This species occurred throughout the Mediterranean, but appears to have been more prevalent in the southern and eastern regions (McEachran et al. 1984), in particular around the Gulf of Gabes on the East coast of Tunisia (Capapé et al. 1997) eastward to the Turkish waters of the eastern Mediterranean (Ismen et al. 2007). While historical information indicates the presence of *R. rhinobatos* in northern and western Mediterranean waters, they appear to have been extirpated in that part of their range (Cavanagh & Gibson 2007). They occur regularly in the eastern Mediterranean in Israel (B. Azrieli, unpublished data).

In the Mediterranean coastline off France, *R. rhinobatos* was historically caught by trawlers (Capapé et al. 1975). Current information suggests that the species is now extinct in this region due to overfishing (Capapé et al. 2006; Newell 2017). Once frequently recorded in the Spanish waters during the early 20th century, *R. rhinobatos* was extirpated in this region including waters around the Balearic Islands where they were once “considered as typical inhabitants of unvegetated sandy bottoms” (Notarbartolo di Sciara et al. 2007).

This species has declined throughout much of its range, and is now likely extinct from the Mediterranean waters of Spain, France, Italy, and likely the entire Adriatic Sea (Newell 2017). The Mediterranean International Trawl Survey (MEDITS) survey programme, uses bottom trawl surveys to collect information on population distribution and demographic structure for benthic and demersal species on the continental shelves and along the upper slopes in the Mediterranean Sea. Data from this survey conducted from April-June, 1994 -2015 found no instances of *R. rhinobatos* in a survey area that included the Mediterranean waters 10-800 m off Morocco, Spain, and France, the Tyrrhenian Sea including the coast of Corsica, Sardinia, and Sicily, and the Adriatic, Ionian, and Aegean Seas, as well as the coast of Cyprus (Newell 2017; MEDITS 2016).

Currently, *R. rhinobatos* is widely fished in the waters of Tunisia where there is a targeted fishery and the species is commonly taken as bycatch (Echwikhi et al. 2013). Similarly, *R. rhinobatos* occurs in fishery landings, along the north coast of Africa, and in the eastern Mediterranean to southeastern Turkey (Newell 2017; Notarbartolo di Sciara et al. 2007). In Lebanon, *R. rhinobatos* is one of the most commonly observed elasmobranchs caught with high volumes landed (Lteif 2015). In an historical reference to fishing activity along the Israeli coast or in the nearby Bardawil Lagoon on the Sinai Peninsula, Lernau and Golani (2004) stated, “swarms of *Rhinobatos rhinobatos* are captured with purse seines.” In Israel the species was fished regularly until about 2 years ago when new enforcement measures against shark and ray fishing began (Ariel & Barash 2016), and since then they are no longer fished, but divers report them as being regularly observed (B. Azrieli, pers. comm.).

Information regarding this species in the eastern Atlantic is very limited, but records indicate that this species is still frequently found from Mauritania to Sierra Leone as Rhinobatids are caught as bycatch of shrimp trawl fisheries operating in shallow inshore waters. (Diop & Dossa 2011; Newell 2017; Notarbartolo di Sciara et al. 2007). In addition to occurring as bycatch, *R. rhinobatos* has been recorded as being targeted (or at least it was until recently), by fishers from Mauritania to Sierra Leone (Diop & Dossa 2011), however detailed distribution along the west African coast is lacking.



**Figure 2.** Species geographical range map for *R. rhinobatos*. (Image modified from Last et al 2016)

#### 4.2 Population (estimates and trends)

There are no quantitative abundance estimates for *R. rhinobatos* throughout its range. Species specific information is not collected across much of the range making abundance estimates and changes to population sizes difficult to address. In most instances the species is listed as present in waters based on fishery-dependent anecdotal information. Available information indicates that the species has been either extirpated in parts of its range or is in severe decline. Current information suggests that *R. rhinobatos* has been extirpated from the coastal waters of Spain, France, and Italy because of long term intensive fishing pressure (Notarbartolo di Sciara et al. 2007).

In the Mediterranean Sea, few shark and ray species are subject to targeted fisheries, yet many elasmobranch species are caught as incidental bycatch (Fowler et al. 2005). Several elasmobranch populations are considered overfished and some species, such as the Mediterranean populations of sawfishes (*Pristis* spp.) and common skates (*Dipturus batis*) now locally extinct. A sympatric species, blackchin guitarfish *R. cemiculus* has also been extirpated from parts of its range due to intense fishing pressure. MEDITS bottom surveys found no instances of *R. rhinobatos* suggesting that this species is locally extinct in the northern Mediterranean Sea.

In those parts of the eastern basin of the Mediterranean, where *R. rhinobatos* is a target species, data on abundance are also limited. However in key fishing states like Tunisia, where this species have been targeted by artisanal fishers for decades, landings indicate declines in abundance with catches containing a large proportion of immature individuals (Notarbartolo di Sciara et al. 2007). Additionally, many other targeted shark and ray species in these waters are experiencing population declines. Lteif (2015) and Lteif et al. (2016) note that this species is one of the most common batiod species fished in Lebanon and that fishing pressure has led to a loss of elasmobranch diversity in these waters.

Along the eastern Atlantic, guitarfish abundance in the West African countries of Mauritania, Senegal, Gambia, Guinea-Bissau, Guinea, and Sierra Leone, has declined (Diop and Dossa 2011). While species specific information is not available, *R. rhinobatos* was once a historically abundant species there, and is now described as scarce (Newell 2017).

#### 4.3 Habitat (short description and trends)

The species is a bottom-dwelling species, which occurs in shallow waters in the intertidal zone to waters of up to 180 m in depth. Bottom trawl surveys carried out off the coast of Sierra Leone indicate that this is a sub-littoral species which occurs between 10 and 100 m in depth. It was found in waters deeper than 50 m only during the summer and autumn; during the winter-spring seasons this guitarfish moves northwards (Litvinov 1993).

#### 4.4 Biological characteristics

##### *Species description*

*R. rhinobatos* is a cartilaginous fish within the Rhinobatidae family of rays. This species is distinguished by the presence of slightly enlarged pectoral fins with the anterior edge of the pectoral fin attached to the side of the head, wedge shaped disc, pointed triangular snout, and a dorsoventrally flattened body. Two upright dorsal fins are separated with the first located well behind the rear tips of the pelvic fin. Rostral ridges are widely spaced over their length and anterior nasal flaps moderately developed. The dorsal surface of *R. rhinobatos* ranges from greenish brown to reddish brown with faint bluish-grey longitudinal stripes and markings. Ventral surface is white (Last et al. 2016).

##### *Feeding and diet*

*R. rhinobatos* is a bottom-dwelling species that consumes a variety of macrobenthic organisms such as crustaceans, fishes, and mollusks (Abdel-Aziz 1993b; Basusta et al. 2007; Lteif 2015; Newell 2017). Stomach content analysis by Enajjar et al. (2007) from fish collected in the Gulf of Gabes (southern Tunisia) found that crustaceans were the most important prey for juveniles and that crustaceans and fishes were the primary prey for adults. Lteif (2015) noted six prey categories: crustaceans (Penaeidae, Brachyura, Squillidae, and juvenile Nephropidae), fish (Teleostei) and cephalopods (Octopodidae) in the stomachs of individuals sampled from Lebanese waters. This study also found that *R. rhinobatos* exhibits a mixed feeding strategy. Juveniles of the Nephropidae family were an important prey group in autumn, Teleostei and Brachyura families important in winter, and Penaeidae important in both seasons. Basusta et al. (2007) concluded that these fish are indiscriminate predators, preying on species that are available regionally (Newell 2017).

##### *Reproductive characteristics*

*R. rhinobatos* is aplacental viviparous, producing live young with embryonic nutrition coming from a yolk sac, with apparent supplement nutrition during gestation from uterine secretions (Dulvy & Reynolds 1997). It is a medium sized guitarfish with recent catches with reported sizes of up to approximately 100 cm (Last et al. 2016) in total length (TL). However, within the Southern Mediterranean (the Gabés Gulf of Tunisia), the maximum reported sizes were slightly larger with 140 cm TL for males and 162 cm TL for females (Capapé et al. 1996). However, other studies indicate no significant difference in size between sexes (Abdel-Aziz 1993; Lteif 2015). In Israeli waters they are currently on average around about 150 cm TL (B. Azrieli, unpublished data) with the record being a female of 185 cm TL (Edelist 2014). Sexual maturity is reached around 75 cm TL for females and 70 cm TL for males, and like in all fishes reproductive output increases with size. There is a wide variety of information in the literature regarding litter sizes (Table 1). One study from Alexandria, Egypt found litter sizes to range between 8-14 pups (Abdel-Aziz 1993), while others note 2-7 pups per litter with an average pup size of approximately 25 cm TL (Last et al. 2016).

Parturition likely occurs once a year, however there are accounts of short gestation period in some locations that may indicate two reproductive events annually. Capapé et al. (1975) found that gestation lasted approximately four months in individuals along the Tunisian coast. However Enajjar (2008) found that gestation lasted between 10-12 months in individuals from the Gulf of Gabes, Tunisia (Table 1). In Alexandria, Egypt, ovarian egg size and male gonadosomatic index peaked in July and August indicating summer spawning.

Along the near-shore area of the central Israeli coast, neonates are often found in the intertidal region in the autumn (from late August to mid-November) (based on reports from fisherman and local residents that have been witnessing this occurrence for the last 40 years). Data from a special survey conducted in 2016-2017 confirm this seasonal phenomenon (B. Azrieli, unpublished data – Table 2).

While age information regarding this species is limited, *R. rhinobatos* matures between two and four years of age and may grow comparatively quickly compared to other elasmobranchs (Başusta et al. 2007; Ismen et al. 2007). Only one study has determined age-length relationship

for this species and maximum age recorded was 24 years old (Başusta et al. 2008). The natural rate of mortality of this species is unknown.

**Table 1.** Reproductive characteristics for *R. rhinobatos* from various reports (modified from Newell 2017).

Mature Females TL (cm)	Mature Males TL (cm)	Litter size	Gestation period (months)	Area	Reference
90-108		4-6	4	Gulf of Gabès, southern Tunisia	Capapé et al. 1975
85-143	79-114	-	-	Lebanese waters	Lteif 2015
75-120	70-100	1-13	10-12	Gulf of Gabès, southern Tunisia	Enajjar et al. 2008
80-162		4-8	9	Tunisian coast	Capapé et al. 1997
86-181	70-172	8-14	9	Waters off Alexandria, Egypt	Abdel Aziz et al. 1993
75-146	-	-	-	İskenderun Bay, Turkey	Demirhan et al. 2010
78-153	-	4-8	10-12	Ouakam, Senegal	Capapé et al. 1999

**Table 2.** Surveys of counts of neonate Common Guitarfish found along Israel's central Mediterranean coast from August 2016 to April 2017 (B. Azrieli, unpubl. data)

Survey	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
1	-	20	60	150	0	0	0	0	0
2	0	13	13	60	-	-	-	-	-
3	6	17	21	80	-	-	-	-	-
4	5	15	9	1	-	-	-	-	-
<b>Average</b>	<b>3.67</b>	<b>16.25</b>	<b>25.75</b>	<b>72.75</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

#### 4.5 Role of the taxon in its ecosystem

The role of *R. rhinobatos* in the ecosystem is not well understood. Little is known regarding the ecosystem function of any guitarfishes.

### 5. Conservation status and threats

#### 5.1 IUCN Red List Assessment (if available)

IUCN Red List Global Assessment (2007): Endangered A4cd

IUCN Red List Mediterranean Assessment (2016): Endangered A2b

#### 5.2 Equivalent information relevant to conservation status assessment.

None.

#### 5.3 Threats to the population (factors, intensity)

Fishing pressure is the largest threat facing populations of *R. rhinobatos*. This species has been extirpated in the northern Mediterranean waters largely due to high incidents of by-catch and unregulated fishing. According to IUCN, this species is one of the most endangered fish species in the Mediterranean Sea (Dulvy et al. 2016).

In Guinea-Bissau, *R. rhinobatos* is one of the main targets of specialized shark fishing teams. An increase in fishing pressure beginning in the late 1990s led to severe declines and size reductions of individuals landed after just a few years and landings have diminished substantially (Fowler & Cavanagh 2005; Notarbartolo di Sciara et al. 2007). Similar declines are reported over this same time period in Senegal (Notarbartolo di Sciara et al. 2007b). These

fisheries target guitarfish with gillnets, with *R. rhinobatos* being a main target species.

#### 5.4 Threats connected especially with migrations

The seasonal migration of gravid females to shallow areas for parturition (giving birth) makes the species especially susceptible to declines in these nursery grounds where females and neonates abound. There is a rising trend in the amount of development and infrastructure projects in the Mediterranean marine environment which often lead to the disruption of the shallow soft bottom habitats where guitarfish are present. These may include dredging activities and placement of infrastructure that disrupt the surrounding seafloor's integrity, especially nursery grounds.

#### 5.5 National and international utilization

In some areas, the species is fished in targeted fisheries for local consumption as food and in others, it is caught as bycatch, and in some areas it is not utilized. There appears to be a high rate of targeting and/or retention of this species as secondary catch in north Africa from Tunisia to Egypt. There is no known international demand or utilization of any parts or derivatives of this species.

Newell (2017) noted that artisanal fisheries comprise over 80% of the fishing in most range states and as such reporting and monitoring of catches and retention is extremely difficult.

### **6. Protection status and species management**

#### 6.1 National protection status

The legal protection status of the species in range states was reviewed by Newell (2017), and quotes reports that SFRC countries<sup>1</sup> as well as Italy, Lebanon, and Greece have put some legal protections in place for this species, and also that they may not be retained in Tunisia if smaller than 40 cm TL.

In 2011, the European Union (EU) prohibited any EU vessel to fish for, retain on board, tranship, land, store, sell, display or offer for sale any species of guitarfish in European Union Atlantic waters, however this protection does not extend to Mediterranean waters, and there is a clear need for protection to be extended to the Mediterranean (Dulvy et al. 2016).

All elasmobranchs are fully protected in Israel and have been since 2005 (Ariel & Barash 2015). An increase in enforcement and educational efforts in Israel over the last few years, has led to an escalation of *R. rhinobatos* observations. Similarly, banning elasmobranch fishing in Banc d'Arguin National Park (Mauritania), a large shallow coastal habitat area, allowed *R. rhinobatos* to recover within the park waters.

The United States of America, while not a range state for the species, listed *R. rhinobatos* as "Threatened" under the Endangered Species Act on 18 January 2017, after a four-year consultation period which included the preparation of a comprehensive review of the species by Newell (2017).

#### 6.2 International protection status

*R. rhinobatos* has been listed in Annex II of the SPA/BD protocol of the Barcelona Convention since 2012, and Parties that have ratified this Protocol are therefore required to provide legal protection status to the species.

The General Fisheries Commission for the Mediterranean (GFCM)<sup>2</sup>, has adopted a specific

1 SFRC = Subregional Fisheries Commission; Mauritania, Cape Verde, Senegal, Gambia, Guinea-Bissau, Guinea, and Sierra Leone

2 GFCM = General Fisheries Commission for the Mediterranean; the members are the European Union, Japan and 22 Mediterranean states: Albania, Algeria, Bulgaria, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Monaco, Montenegro, Morocco, Romania, Slovenia, Spain, Syria, Tunisia, Turkey.

recommendation (GFCM/36/2012/3) on fisheries management measures for the elasmobranchs species listed in Annex II of the SPA/BD protocol and these species must be given a high protection status and “must be released unharmed and alive to the extent possible” and “cannot be retained on board, transshipped, landed, transferred, stored, sold or displayed or offered for sale”. It is unclear to what extent this recommendation has been adopted with regards to *R. rhinobatos* by the members of GFCM, which includes all riparian countries in the Mediterranean plus Japan and the EU.

The species is not included in the Appendices to the CITES Convention.

### 6.3 Management measures.

None are known.

### 6.4 Habitat conservation

The species occurs in protected and unprotected areas within its range, however there are no areas that are known to be protected specifically as habitat for this species. In order to improve the conservation status of the species, shallow nursery grounds that this species uses for parturition are important to protect and conserve. As this species is often subject to bycatch by trawlers, protection of demersal habitats from trawling activity is important in order to reduce this species being removed as bycatch.

### 6.5 Population monitoring.

None is known

## 7. Effects of the proposed amendment

### 7.1 Anticipated benefits of the amendment

As mentioned above, the species is already listed in Appendix II of the SPA/BD Protocol of the Barcelona Convention which already requires protection of the species by range states and states that fish for it. Inclusion of the Mediterranean Sea population in CMS Appendix I will provide greater emphasis on the need to implement protection for this species in the entire Mediterranean Sea.

The inclusion of the entire species in CMS Appendix II will emphasize the importance of international cooperation for the conservation of this species, especially by promoting the inclusion of the species in Annex 1 of the Sharks-MOU. Although the latter is non-binding, listing the species in the Sharks-MOU will emphasize the wish of the signatories on the Sharks-MOU to conserve the species.

### 7.2 Potential risks of the amendment

Since this proposal relates only to one species of guitarfish, there is a slight risk that parties wishing to comply with this CMS listings would redirect fishing pressure onto other sympatric guitarfish for example the Blackchin Guitarfish, *Glaucostegus cemiculus*, which is also endangered in the Mediterranean Sea. However, this scenario is unlikely since *G. cemiculus* is also listed in Annex II of the SPA/BD Protocol of the Barcelona Convention and already has the same conservation status as *R. rhinobatos*.

### 7.3 Intention of the proponent concerning development of an Agreement or Concerted Action

The proponent would be very interested in helping promote the species for inclusion in Annex 1 of the Sharks-MOU.

Since better data are needed from all range states, especially in the Mediterranean, the proponent would intend to help range states to conduct effective surveys for better determination of the conservation status of the species and to help determine the effects of any conservation measures.

## 8. Range States.

According to IUCN (Notarbartolo di Sciara et al. 2007) the species is native to the following countries: Albania; Algeria; Angola; Benin; Bosnia and Herzegovina; Bulgaria; Cameroon; Cape Verde; Congo; Côte d'Ivoire; Croatia; Cyprus; Denmark; Egypt; Equatorial Guinea; France; Gabon; Germany; Ghana; Greece; Guinea; Guinea-Bissau; Iceland; Ireland; Israel; Lebanon; Liberia; Libya; Mauritania; Monaco; Montenegro; Morocco; Namibia; Nigeria; Norway; Portugal (Azores, Madeira); Senegal; Sierra Leone; Slovenia; South Africa; Spain; Syrian Arab Republic; Togo; Tunisia; United Kingdom.

## 9. Consultations.

A draft of this proposal was distributed by the CMS Secretariat to all range states and to the USA in early May 2017, asking for comments. The only country that sent official comment was Republic of the Congo (Congo-Brazzaville) whose CMS focal, Jérôme Mokoko Ikonga, wrote that Congo-Brazzaville is a range state for the species yet no assessment of the population has been made, and that the species is heavily fished. He reported that the country supports this proposal. Here is the original comment in French:

*En effet, le Congo Brazzaville est une aire de répartition de l'espèce. Aucune évaluation de cette population n'a été faite et l'espèce est beaucoup pêchée. Je pense que mon pays adhère à cette proposition de l'inclure dans l'annexe de la CMS.*

## 10. Additional remarks

Early drafts of this proposal were based on information provided by the Global Shark Conservation Program of the Pew Charitable Trusts, by Aviad Scheinin, Adi Barash and Barak Azrieli of Haifa University, and by Brendan Newell; the final version was prepared for submission by Simon Nemtsov of the Israel Nature and Parks Authority, CMS Focal and CMS Scientific Councilor for Israel, who wishes to acknowledge and thank those mentioned above.

## 11. References

- Abdel-Aziz, S.H., Khalil, A.N., Abdel-Maguid, S.A. (1993). Reproductive cycle of the common guitarfish, *Rhinobatos rhinobatos* (Linnaeus, 1758), in Alexandria waters, Mediterranean Sea. *Marine and Freshwater Research*, 44: 507-517.
- Abdel-Aziz, S.H., Khalil, A.N., Abdel-Maguid, S.A. (1993b). Food and feeding habits of the common guitarfish, *Rhinobatos rhinobatos* in the Egyptian Mediterranean waters. *Indian Journal of Marine Sciences* 22, 287-290
- Ariel, A. & Barash, A. (2015). Action Plan for Protection of Sharks and Rays in the Israeli Mediterranean. EcoOcean Association.
- Basusta, N., Demirhan, S.A., Karalar, M., Cekic, M. (2007). Diet of common guitarfish (*Rhinobatos rhinobatos* L., 1758) in the Iskenderun Bay (northeastern Mediterranean). *Rapp. Com. Int. Mer. Medit*, 38(426), pp.71-80.
- Başusta, N., Demirhan, S.A., Çiçek, E., Başusta, A., Kuleli, T. (2008). Age and growth of the common guitarfish, *Rhinobatos rhinobatos*, in Iskenderun Bay (north-eastern Mediterranean, Turkey). *Journal of the Marine Biological Association of the UK*, 88, 837-842.
- Başusta, A., Başusta, N., Sulikowski, J.A., Driggers, W.B., Demirhan, S.A. & Cicek, E. (2012). Length–weight relationships for nine species of batoids from the Iskenderun Bay, Turkey. *Journal of Applied Ichthyology*, 28(5), 850-851.
- Bradai, M.N. & Soldo, A. (2016). *Rhinobatos rhinobatos*. The IUCN Red List of Threatened Species 2016 (Mediterranean Assessment). Downloaded on 1 January 2017.
- Capapé, C., Zaouali, J., Quignard, J.P. (1975). First data on the reproductive cycle of *Rhinobatos rhinobatos* (Linnaeus, 1758) and *Rhinobatos cemiculus* (Geoffroy SaintHilaire, 1817) the Tunisian coast.
- Capapé, C., Diop, M., N'doa, M. and Ben Brahim, R. (1996). Observations biologiques comparées entre quelques espèces de Sélaciens des côtes tunisiennes (Méditerranée centrale) et de la région de Dakar-Ouakam (Sénégal, Atlantique orientale tropicale). *Ichthyophysiological Acta* 19: 179-199.
- Capapé, C., Ben Brahim, R., Zaouali, J. (1997). Aspects de la biologie de la reproduction de *Rhinobatos rhinobatos* (Rhinobatidae) des eaux tunisiennes. *Ichthyophysiol. Acta* 20, 113–127.
- Capapé, C., Guélorget, O., Vergne, Y., Marquès, A., Quignard, J.P. (2006). Skates and rays

- (Chondrichthyes) from waters off the Languedocian coast (southern France, northern Mediterranean). *Ann Ser Hist Nat*, 16.
- Cavanagh, R.D., & Gibson, C. (2007). Overview of the Conservation Status of Cartilaginous Fishes (Chondrichthyans) in the Mediterranean Sea. IUCN.
- Çek, Ş., Başusta, N., Demirhan, S.A. and Karalar, M. (2009). Biological observations on the common guitarfish *Rhinobatos rhinobatos* from İskenderun Bay (Turkey, Eastern Mediterranean). *Animal Biology*, 59(2), pp.211-230.
- Demirhan, S.A., Çek, S., Basusta, A., Basusta, N. (2010). Maturity and reproductive cycle of the common guitarfish, *Rhinobatos rhinobatos* (Linnaeus, 1758), in Iskenderun Bay (northeastern Mediterranean). *Rapp. Comm. int. Mer Médit.*, 39.
- Diop, M. & Dossa, J., (2011). Thirty Years of shark fishing in West Africa. Corlet/ Condé-sur-Noireau (France): Fondation internationale du Bassin d'Arguin, Regional Marine and Coastal Conservation Programme for West Africa, and the Sub-Regional Fishing Commission.
- Dulvy, N.K. & J.D. Reynolds (1997). Evolutionary transitions among egg-laying, live-bearing and maternal inputs in sharks and rays. *Proc. Royal Soc. London, Ser. B: Biol. Sci.* 264:1309-1315.
- Dulvy, N.K., Allen, D.J., Ralph, G.M. and Walls, R.H.L. (2016). The conservation status of Sharks, Rays and Chimaeras in the Mediterranean Sea [Brochure]. IUCN, Malaga, Spain.
- Dunlop, S.W., B.Q. Mann & R.P. van der Elst (2013). A Review of the Oceanographic Research Institute's Cooperative Fish Tagging Project: 27 Years down the Line. *African Journal of Marine Science* 35: 209-221.
- Echwikhi, K., Saidi, B., Bradai, M.N., Bouain, A. (2013). Preliminary data on elasmobranch gillnet fishery in the Gulf of Gabès, Tunisia. *Journal of Applied Ichthyology*, 29: 1080-1085.
- Edelist, D. (2014). New length-weight relationships and L-max values for fishes from the Southeastern Mediterranean Sea. *Journal of Applied Ichthyology*, 30, 521-526.
- Enajjar, S., Bradai, M.N., Bouain, A. (2007). Feeding habitats of *Rhinobatos rhinobatos* in the Gulf of Gabes. *Rapp. Comm. int. Mer Médit.* 468.
- Enajjar, S., Bradai, M.N. & Bouain, A. (2008). New data on the reproductive biology of the common guitarfish of the Gulf of Gabès (southern Tunisia, central Mediterranean). *Journal of the Marine Biological Association of the UK*. pp. 88
- Fowler, S.; Cavanagh, R.; Camhi, M.; Burgess, G.; Cailliet, G.; Fordham, S.; Simpfendorfer, C.; Musick, J. (2005). Sharks, Rays and Chimaeras: the status of the Chondrichthyan fishes. IUCN Publication Services Unit, Cambridge, UK. pp. 461.
- Fowler, S.L. & Cavanagh, R. (2005). Species status reports. Sharks, Rays and Chimaeras: The Status of the Chondrichthyan Fishes. IUCN/SSC Shark Specialist Group. 73-92.
- Ismen, A., Yığın, C., Ismen, P. (2007). Age, growth, reproductive biology and feed of the common guitarfish (*Rhinobatos rhinobatos* Linnaeus, 1758) in Iskenderun Bay, the eastern Mediterranean Sea. *Fisheries Research*, 84(2), pp.263-269.
- Last, P., Naylor, G., Séret, B., White, W., Stehmann, M. and de Carvalho, M. eds. (2016). *Rays of the World*. Csiro Publishing.
- Lernau, O. & Golani, D. (2004). The osteological remains (aquatic). In: D. Ussishkin (ed.) *The renewed archaeological excavations at Lachish (1973 - 1994)* Tel Aviv, Israel Emery and Claire Yass Publications in Archaeology 2456 – 2489.
- Litvinov, F.F. (1993). Comparative analysis of benthic and benthopelagic elasmobranch taxocoens off Morocco and Sierra Leone. *Biology of the oceanic fish and squids. Transactions of the P.P. Shirshov Institute of Oceanology*. 128: 231-256
- Lteif, M. (2015). Biology, distribution and diversity of cartilaginous fish species along the Lebanese coast, eastern Mediterranean. *Ecology and environment. Université de Perpignan*.
- Lteif, M., Mouawad, R., Khalaf, G., Lenfant, P. & Verdoit-Jarraya, M. (2016). Population biology of an endangered species: the common guitarfish *Rhinobatos rhinobatos* in Lebanese marine waters of the eastern Mediterranean Sea. *Jour. Fish Biol.*, 88: 1441–1459. doi:10.1111/jfb.12921
- McEachran, J.D. & Capape, C. (1984). Rhinobatidae. In: Whitehead, P.J.P., Bauchot, M.L., Hureau, C., Nielsen, J., Tortonese, E. (Eds.), *Fishes of the North-Eastern Atlantic and the Mediterranean*, vol. 1. UNESCO, Paris, pp. 156–158.
- Mediterranean International Trawl Survey MEDITS. (2016). TM list (all species). <http://www.sibm.it/MEDITS%202011/Liste%20in%20pdf/TM%20list%20all%20species.pdf>
- Newell, B.M. (2017). Status Review Report of Two Species of Guitarfish: *Rhinobatos rhinobatos* and *Rhinobatos cemiculus*. Report to National Marine Fisheries Service, Office of Protected Resources. 62 pp
- Notarbartolo di Sciara, G., Bradai, M.N., Morey, G., Marshall, A.D., Compagno, L.J.V., Mouni, A.,

Hicham, M., Bucal, D., Dulvy, N., Heenan, A., Rui Coelho. (2007). *Rhinobatos rhinobatos*. The IUCN Red List of Threatened Species 2007: e.T63131A12620901. <http://dx.doi.org/10.2305/IUCN.UK.2007.RLTS.T63131A12620901.en>. Downloaded on 16 February 2017.

Whitehead, P.J.P., Bauchot, M.L., Hureau, J.C., Nielsen, J. and Tortonese, E. (eds). (1984). Fishes of the North-eastern Atlantic and the Mediterranean Vol 1. UNESCO, Paris.