

The IUCN Red List of Threatened Species™ ISSN 2307-8235 (online) IUCN 2019: T161480A139617441 Scope: Global Language: English

# Mustelus mosis, Arabian Smoothhound

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THE IUCN RED LIST OF THREATENED SPECIES™

## Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Chordata	Chondrichthyes	Carcharhiniformes	Triakidae

Taxon Name: Mustelus mosis Hemprich & Ehrenberg, 1899

## Common Name(s):

• English: Arabian Smoothhound

### Taxonomic Source(s):

Fricke, R., Eschmeyer, W.N. and Van der Laan, R. (eds). 2019. Eschmeyer's Catalog of Fishes: genera,species,references.Updated03September2019.Availableat:http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp.

## **Assessment Information**

Red List Category & Criteria:	Near Threatened <u>ver 3.1</u>		
Year Published:	2019		
Date Assessed:	April 25, 2018		

#### Justification:

The Arabian Smoothhound (*Mustelus mosis*) is a small (to 150 cm total length) houndshark that occurs in the Western Indian Ocean from KwaZulu-Natal, South Africa to Tanzania, and from the Red Sea to India and Sri Lanka at depths of 20–250 m. This species is captured in multiple gears (bottom trawls, gillnets, and line gear) and is retained for human consumption in most of its range. Inshore fishing pressure is generally intense within its range, although no data are currently available on population trends. It remains one of the dominant species in landings in parts of the northern Indian Ocean. Although it is likely to be a relatively productive species, it is suspected to have undergone a population reduction of 20–29% over the past three generations (33 years) based on levels of exploitation in largely unmanaged fisheries. Therefore, the Arabian Smoothhound is assessed as Near Threatened, nearly meeting the threshold for threatened under A2d. Further research and catch monitoring are needed to ensure this species does not become threatened in the near future.

## **Previously Published Red List Assessments**

2009 – Data Deficient (DD) http://dx.doi.org/10.2305/IUCN.UK.2009-2.RLTS.T161480A5433491.en

## **Geographic Range**

#### **Range Description:**

The Arabian Smoothhound is widespread in the Indian Ocean, from KwaZulu-Natal, South Africa to Tanzania, and from the Red Sea to India and Sri Lanka (Ebert *et al.* 2013, R. Bennett, unpubl. data, 2018).

#### **Country Occurrence:**

**Native:** Bahrain; Djibouti; Egypt (Sinai); Eritrea; India; Iran, Islamic Republic of; Iraq; Kuwait; Mozambique; Oman; Pakistan; Qatar; Saudi Arabia; Somalia; South Africa; Sri Lanka; Sudan; Tanzania, United Republic of; United Arab Emirates; Yemen (Socotra)

#### **FAO Marine Fishing Areas:**

Native: Indian Ocean - western, Indian Ocean - eastern

# **Distribution Map**

Mustelus mosis



#### Range

Extant (resident)

Compiled by: IUCN SSC Shark Specialist Group





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## Population

There have been no dedicated surveys, nor are there population size or trend estimates for this species. The Arabian Smoothhound is patchily distributed, but often is captured in large numbers when encountered. Few data are available to determine changes in abundance over time.

This species is a rare catch in the KwaZulu-Natal shark control nets, and it is caught in Mozambique (S. Fernando, unpubl. data, 2018) and Zanzibar (R. Bennett, unpubl. data, 2018). It was reported from the Gulf of Suez and Hurghada (Egypt) during landing site surveys in 1999 and 2001, representing 5% of shark landings by number (Bonfil 2003) but it was not recorded in more recent landing site surveys from the Saudi Red Sea coast (Spaet and Berumen 2015). In Yemen (Gulf of Aden), they make up 22.4% of shark landings by number (Shaher 2007) but surveys in the Gulf of Aden in the winter months of 2013 and 2014 recorded only a few specimens (I. Elhassan, unpubl. data, 2017). This may suggest a decline in abundance, but may also reflect seasonal changes in abundance related to reproductive migrations as suggested by Shaher (2007). Further surveys will be required to resolve this question.

Few catches are reported from Oman (Henderson *et al.* 2007) and this species represented <1% of sharks traded by number in the United Arab Emirates (UAE) that originated in Oman (Jabado *et al.* 2015b). In the UAE, it is the sixth most commonly observed shark in market surveys, representing 1.6% of shark landings by number (Jabado *et al.* 2015a). This species represented less than 2% of elasmobranch landings by number in Kuwait (Moore *et al.* 2012) but was the second most common shark recorded in Bahrain representing 12.5% of elasmobranch landings by number (Moore and Peirce 2013). Previous surveys around Bahrain recorded it as common (Herdson 1981), suggesting it remains an important species in the region. This species is rarely caught as incidental take in trawl fisheries in India and Pakistan and is not caught in fisheries in Iran (Arabian/Persian Gulf). In India, it represented less than 1 t of trawl catches off the southwest coast between 2003 and 2004 (Raje *et al.* 2007). In recent landing site surveys on the coast of Gujarat and Maharashtra, this species was also uncommonly recorded in landings (R.W. Jabado, unpubl. data, 2017).

Overall, although this species is moderately productive, a population reduction of 20–29% over the past three generations (30 years) is suspected based on levels of exploitation. **Current Population Trend:** Decreasing

## Habitat and Ecology (see Appendix for additional information)

The Arabian Smoothhound is a benthic shark found inshore and offshore at depths of 20–250 m, sometimes in association with coral reefs (Ebert *et al.* 2013). The species is reported to reach a maximum size of 150 cm total length (TL) but is rarely seen above 100 cm TL (Jabado *et al.* 2016, Moore *et al.* 2016). Males mature at 65–78 cm TL and females mature from ~73 cm TL. Reproduction is viviparous, and the species gives birth to 2–16 pups per litter (Moore *et al.* 2016). Size-at-birth is reported as 26–28 cm TL (Ebert *et al.* 2013). No age or growth data are available for this species, but generation length can be estimated as 11 years based on the Dusky Smoothhound (*Mustelus canis*) from the Western Atlantic which has a similar latitudinal distribution and maximum size (Conrath *et al.* 2002).

#### Systems: Marine

# Use and Trade

The meat of this species is often sold fresh for human consumption at local markets. Fins are not considered valuable due to their small size but are still traded internationally (Jabado *et al.* 2015b). In India, offal is sometimes processed into fishmeal.

## Threats (see Appendix for additional information)

The Arabian Smoothhound is caught in bottom trawls, fixed bottom and floating gillnets, and line gear throughout its range (Jabado *et al.* 2015, Moore *et al.* 2016).

## **Conservation Actions** (see Appendix for additional information)

There are no species-specific protections or conservation measures in place. Some countries across its range have banned the targeted fishing for sharks (e.g. Egypt, Saudi Arabia, Sudan, Kuwait). There are some local and seasonal trawl bans that might benefit the species. Recreational anglers in South Africa are technically restricted to one shark per species per day (maximum of 10 individuals per day), although enforcement is an ongoing issue. Further research is needed on life history, population size and trends, and threats. Fisheries catch monitoring at the species level is needed.

## Credits

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# Bibliography

Bonfil, R. 2003. Consultancy on Elasmobranch Identification and Stock Assessment in the Red Sea and Gulf of Aden. Regional Organization for the Conservation of the Environment of the Red Sea and Gulf of Aden.

Conrath, C.L. Gelsleichter, J. and Musick, J.A. 2002. Age and growth of the smooth dogfish (*Mustelus canis*) in the northwest Atlantic Ocean. *Fishery Bulletin* 100(4): 674-682.

Ebert, D.A., Fowler, S. and Compagno, L. 2013. Sharks of the World. Wild Nature Press, Plymouth.

Henderson, A.C., McIlwain, J.L., Al-Oufi, H.S. and Al-Sheili, S. 2007. The Sultanate of Oman shark fishery: Species composition, seasonality and diversity. *Fisheries Research* 86: 159–168.

Herdson, D.M. 1981. The demersal fish resources of the South West Arabian Gulf. *Herdson (1981)The demersal fish resources A report on the British Ministry of Overseas Development and State of Bahrain Joint Research Project, 1974-1978.* .

IUCN. 2019. The IUCN Red List of Threatened Species. Version 2019-3. Available at: <u>www.iucnredlist.org</u>. (Accessed: 10 December 2019).

Jabado, R.W., Al Ghais, S.M., Hamza, W., Robinson, D.P. and Henderson, A.C. 2016. Biological data from sharks landed within the United Arab Emirates artisanal fishery. *African Journal of Marine Science* 38(2): 217-232.

Jabado, R.W., Al Ghais, S.M., Hamza, W., Shivji, M.S. and Henderson, A.C. 2015. Shark diversity in the Arabian/Persian Gulf higher than previously thought: insights based on species composition of shark landings in the United Arab Emirates. *Marine Biodiversity* 45(4): 719–731.

Jabado, R.W., Ghais S.M.A, Hamza, W., Henderson, A.C., Spaet, J.L.Y., Shivji, M.S. and Hanner, R.H. 2015. The trade in sharks and their products in the United Arab Emirates. *Biological Conservation* 181: 190–198.

Moore, A.B.M. and Peirce, R. 2013. Composition of elasmobranch landings in Bahrain. *African Journal of Marine Science* 35(4): 593–596.

Moore, A.B.M., Henderson, A.C., Farrell, E.D., Weekes, L.B. 2016. Biological data from a data-deficient shark: the Arabian smoothhound *Mustelus mosis* (Carcharhiniformes: Triakidae). *Journal of Fish Biology* 88: 2303–2307.

Moore, A.B.M., McCarthy, I.D., Carvalho, G.R. and Peirce, R. 2012. Species, sex, size and male maturity composition of previously unreported elasmobranch landings in Kuwait, Qatar and Abu Dhabi Emirate. *Journal of Fish Biology* 80: 1619–1642.

Raje, S.G., Sivakami, S., Mohanraj, G., Manojkumar, P.P., Raju, A. and Joshi, K.K. 2007. An atlas on the elasmobranch fishery resources of India. CMFRI Special Publication 95.

Shaher, S. 2007. Biology and status of shark fishery in Yemen. WPEB. IOTC.

Spaet, J.L.Y. and Berumen, M.L. 2015. Fish market surveys indicate unsustainable elasmobranch fisheries in the Saudi Arabian Red Sea. *Fisheries Research* 161: 356–364.

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# **External Resources**

For Images and External Links to Additional Information, please see the Red List website.

# Appendix

# Habitats

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Habitat	Season	Suitability	Major Importance?
9. Marine Neritic -> 9.2. Marine Neritic - Subtidal Rock and Rocky Reefs	Resident	Suitable	Yes
9. Marine Neritic -> 9.3. Marine Neritic - Subtidal Loose Rock/pebble/gravel	Resident	Suitable	Yes
9. Marine Neritic -> 9.4. Marine Neritic - Subtidal Sandy	Resident	Suitable	Yes
9. Marine Neritic -> 9.5. Marine Neritic - Subtidal Sandy-Mud	Resident	Suitable	Yes
9. Marine Neritic -> 9.6. Marine Neritic - Subtidal Muddy	Resident	Suitable	Yes
11. Marine Deep Benthic -> 11.1. Marine Deep Benthic - Continental Slope/Bathyl Zone (200-4,000m) -> 11.1.1. Hard Substrate	Resident	Suitable	Yes
11. Marine Deep Benthic -> 11.1. Marine Deep Benthic - Continental Slope/Bathyl Zone (200-4,000m) -> 11.1.2. Soft Substrate	Resident	Suitable	Yes

## Threats

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Threat	Timing	Scope	Severity	Impact Score
5. Biological resource use -> 5.4. Fishing & harvesting aquatic resources -> 5.4.1. Intentional use: (subsistence/small scale) [harvest]	Ongoing	Majority (50- 90%)	Unknown	Unknown
	Stresses:	2. Species Stresses -> 2.1. Species mortality		
5. Biological resource use -> 5.4. Fishing & harvesting aquatic resources -> 5.4.2. Intentional use: (large scale) [harvest]	Ongoing	Majority (50- 90%)	Unknown	Unknown
	Stresses:	2. Species Stress	es -> 2.1. Species mor	tality
5. Biological resource use -> 5.4. Fishing & harvesting aquatic resources -> 5.4.3. Unintentional effects: (subsistence/small scale) [harvest]	Ongoing	Majority (50- 90%)	Unknown	Unknown
	Stresses:	2. Species Stresses -> 2.1. Species mortality		
5. Biological resource use -> 5.4. Fishing & harvesting aquatic resources -> 5.4.4. Unintentional effects: (large scale) [harvest]	Ongoing	Majority (50- 90%)	Unknown	Unknown
	Stresses:	2. Species Stress	es -> 2.1. Species mor	tality

# **Conservation Actions in Place**

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Conservation Actions in Place	
In-Place Research, Monitoring and Planning	
Action Recovery plan: No	
Systematic monitoring scheme: No	
In-Place Land/Water Protection and Management	
Conservation sites identified: No	
Occur in at least one PA: Unknown	
Area based regional management plan: No	
Invasive species control or prevention: Not Applicable	
In-Place Species Management	
Harvest management plan: No	
Successfully reintroduced or introduced beningly: No	
Subject to ex-situ conservation: No	
In-Place Education	
Subject to recent education and awareness programmes: No	
Included in international legislation: No	
Subject to any international management/trade controls: No	

# **Conservation Actions Needed**

(http://www.iucnredlist.org/technical-documents/classification-schemes)

### **Conservation Actions Needed**

3. Species management -> 3.1. Species management -> 3.1.1. Harvest management

## **Research Needed**

(http://www.iucnredlist.org/technical-documents/classification-schemes)

# Research Needed1. Research -> 1.2. Population size, distribution & trends1. Research -> 1.3. Life history & ecology1. Research -> 1.5. Threats3. Monitoring -> 3.1. Population trends3. Monitoring -> 3.2. Harvest level trends

# **Additional Data Fields**

#### Distribution

Continuing decline in area of occupancy (AOO): Unknown

Extreme fluctuations in area of occupancy (AOO): Unknown

Continuing decline in extent of occurrence (EOO): Unknown

Extreme fluctuations in extent of occurrence (EOO): Unknown

Continuing decline in number of locations: Unknown

Extreme fluctuations in the number of locations: Unknown

Lower depth limit (m): 250

Upper depth limit (m): 20

#### Habitats and Ecology

Generation Length (years): 11

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