**Glaucostegus cemiculus**, Blackchin Guitarfish


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**Taxonomy**

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**Taxon Name:** *Glaucostegus cemiculus* (Geoffroy Saint-Hilaire, 1817)

**Synonym(s):**
- *Rhina cemiculus* Geoffroy St. Hilaire, 1827
- *Rhinobatos cemiculus* Geoffroy Saint-Hilaire, 1817

**Regional Assessments:**
- Europe
- Mediterranean

**Common Name(s):**
- English: Blackchin Guitarfish
- French: Guitarre De Mer Fouisseuse
- Spanish: Guitarra Barbanegra, Guitarró

**Taxonomic Source(s):**

**Taxonomic Notes:**
Some recent changes in the systematics of *Rhinobatus* have elevated the subgenus *Glaucostegus* to full generic status and placed this genus into a family of its own: Glaucostegidae (Compagno 2005, Last et al. 2016).

**Assessment Information**

**Red List Category & Criteria:** Endangered A4bd [ver 3.1](http://dx.doi.org/10.2305/IUCN.UK.2016-3.RLTS.T63132A104009894.en)

**Year Published:** 2016

**Date Assessed:** March 3, 2007

**Justification:**
This is an amended version of the 2007 assessment to accommodate recent taxonomic revision of the genus *Rhinobatus*.

*Glaucostegus cemiculus* is targeted throughout its range in West Africa. The high price that fins can fetch (100 to 150 Euro/kg) presents a lucrative incentive for fishermen and as a result targeted artisanal fisheries have developed in the region to supply the Asian shark fin trade (M. Seisay, A. Mendy and M. DuCroq pers. comm. 2006). Pregnant females and reproductively active males move inshore for parturition, as mating immediately follows birth. As demonstrated in Guinea-Bissau, gravid females are
targeted specifically for their large fins, this alongside the aggregation of spawning individuals around the coast render this species susceptible to fishing exploitation. This species is large and has a low level of fecundity, it is likely to have a relatively unproductive and vulnerable life history. A decrease in overall landings and size reduction of specimens landed has been observed, landings in Senegal have decreased from 4,050 t in 1998 to 821 t in 2005 (Ministry of Maritime Economy and International Maritime Transport unpub. data). It is also taken as bycatch to international trawling fleets, in artisanal gillnet fisheries and in bottom trawl cephalopod fisheries which operate throughout its range. It is suspected that there will be a projected decline of 50% within three generations (15 to 30 years) on the basis of the severe declines in other guitarfishes and wedgefishes, the continuation of fishing pressure in shallow coastal habitats, the potential for fishing effort to shift towards the further targeting of guitarfish in light of their highly valued fins, particularly in the absence of other sharks. As a result this species is assessed as Endangered. Aside from the localized protection within the Banc d' Arguin, this species is not subject to any management of conservation measures. The status of this species should be monitored carefully and a finning ban including a ban on carcass dumping should be considered. Otherwise, the implementation of licenses for shark fishing and finning and a tax system on shark fins is recommended.

Previously Published Red List Assessments


Geographic Range

Range Description:

Global: The Blackchin Guitarfish distribution extends between 42°N to 17°S, 19°W to 36°E. From the Northern coast of Portugal, down the west African coast and including the Mediterranean Sea.

Mediterranean: Throughout the Mediterranean coasts, but it appears more prevalent in the southern and eastern regions (Capapé 1989). Countries of occurrence include; Algeria, Albania, Bosnia and Herzegovina, Corsica, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Monaco, Morocco, Sardinia, Serbia and Montenegro, Slovenia, Spain, Syria, Turkey and Tunisia.

East Atlantic: From the Northern coast of Portugal, southwards to Angola.

Country Occurrence:

Native: Albania; Algeria; Angola (Angola); Bosnia and Herzegovina; Cameroon; Cape Verde; Congo; Côte d'Ivoire; Croatia; Cyprus; Egypt; France; Gabon; Gambia; Ghana; Greece; Guinea; Guinea-Bissau; Israel; Italy; Lebanon; Liberia; Libya; Malta; Mauritania; Monaco; Montenegro; Morocco; Namibia; Nigeria; Senegal; Sierra Leone; Slovenia; South Africa; Spain; Syrian Arab Republic; Togo; Tunisia; Turkey; Western Sahara

FAO Marine Fishing Areas:

Native: Atlantic - southeast, Atlantic - northeast, Atlantic - eastern central, Mediterranean and Black Sea -
Distribution Map

*Glaucostegus cemiculus*

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**Glaucostegus cemiculus**

**Range**

- Extant (resident)

**Compiled by:**

International Union for Conservation of Nature (IUCN)

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Population

Was regarded as common within the southern Mediterranean (Whitehead et al. 1984), in particular around the Gulf of Gabes, on the East coast of Tunisia (Quignard and Capapé 1971).

Preliminary surveys from IUCN Guinea-Bissau programme in collaboration with Centre of Applied Fisheries Research indicate that populations have diminished substantially (Fowler et al. 2005). Nothing of the population of this species is known from Senegal and Gambia.

Bottom trawl surveys performed at depths ranging from 10 to 900 m at regular intervals off the coast of Sierra Leone between 1976 and 1983 (Litvinov 1993) reported only nine individuals, all in a single trawl. A similar trawl campaign in Morocco, (totalling four surveys over 150 trawl station between 1972 and 1980) failed to capture any specimens (Litvinov 1993).

Current Population Trend: Decreasing

Habitat and Ecology (see Appendix for additional information)

The Blackchin Guitarfish inhabits marine and brackish waters in subtropical areas. It is a demersal species, living over sandy or muddy substrates, with a depth range that spans from shallow waters to approximately 100 m. This fish tends to swim slowly over the bottom or partially buries itself under the substrate. Whitehead et al. (1984) reported the maximum total length (TL) of this species as 180 cm, however within the Gabés Gulf in the south of the Mediterranean the maximum reported TL is slightly larger with 192 cm for males and 230 cm for females. The size at maturity is 110 and 100 cm TL for females and males, respectively.

The Blackchin Guitarfish is ovoviviparous. Whitehead et al. (1984) reported that this species produces between 4 to 6 pups per litter, however in the Gabés Gulf an estimated 9 to 16 pups are produced (Capapé et al. 1996, M. Bradai and Ennajar pers. comm). The gestation period takes between four to six months, and reproductive females are believed to produce one or two litters per year.

In Mauritania, IMROP trawl surveys in Aug 2005 to May 2006 recorded a sex ratio of 1:2 females to males and a litter size of seven pups per litter. The size range captured was 84 to 197 cm (IMROP unpub. data). Main prey items were fish (Sardinella) cephalopods, crabs, shrimps, gastropods especially Cybium sp. (IMROP unpub. data). In Guinea-Conakry the maximum reported size was 238 cm TL (F. Doumbouya pers. comm. 2006).

Analysis of gut contents indicate that the Blackfin Guitarfishes' diet is composed of primarily of prawn (two thirds), crab, other crustacean and fish (F. Doumbouya pers. comm. 2006).

Systems: Marine

Threats (see Appendix for additional information)

Based on anecdotal evidence, the Blackchin Guitarfish was historically common throughout the Northern Mediterranean. In the late 19th century Doderlain (1884), commented on the daily presence of this species on the Palmero fish market, while in the early 20th Century it was considered a typical resident over sandy substrates around the Balearic Islands (De Buen 1935). Furthermore, the perception
of older fishermen operating this region was that of a relatively high frequency of occurrence in the first half of the 20th century, compared to the present apparent local extinction in this area (G. Morey pers. comm).

In the northern Mediterranean, where both the Blackchin and Common Guitarfishes used to be quite common (see, for example, Doderlein (1884) concerning their daily presence on the Palermo fish market); both disappeared from bottom trawl surveys, from the Alboran to Aegean sea within the MEDITS international program; both disappeared from the landings in Mazzara del Vallo, (M. Vacchi pers. comm.) and they appear to have been extirpated from this area (Relini and Piccinetti 1991). In the Balearic Islands both species were considered as typical inhabitants of unvegetated sandy bottoms (De Buen 1935). Old fishermen reported their relative frequency during the first half of the 20th century, but nowadays they seem to be extinct in the area (G. Morey pers. obs). Given that the two species are demersal, occurring over shelf bottoms at maximum depths of about 100 m, their connection with extra-Balearic populations seems to be very low, so they seem to be extinct in the area. In areas of the southern Mediterranean (e.g., Gulf of Gabés, but perhaps elsewhere along the still underfished Mediterranean African coast) both species are still present in the catch, but with a large fraction of immature individuals.

In western Africa, the fins of the Blackchin Guitarfish are highly prized (they can fetch an estimated 100 Euro/kg), and as a result it is a major target species of artisanal fisheries operating along all coasts in this region (M. DuCrocq pers. comm. 2006). A reduction in the size of individuals and a strong decline in this species has been observed throughout its range in West Africa, for example the Ministry of Maritime Economy and International Marine Transport of Senegal indicate that landings have decreased from 4,050 t in 1998 to 821 t in 2005 (unpub. data). This species gives birth between September and October off sandy coastlines, muddy sandy banks and mangrove coastlines. During this period there is an increase in the relative abundance of both pregnant females and mature reproductively active males as mating takes place immediately after females have given birth. The tendency for reproductively active individuals of this species to aggregate around the coastline renders it especially vulnerable to fisheries (M. Ducrocq pers. comm. 2006). Rhinobatids are caught as bycatch of the shrimp trawl fishery operating in shallow inshore waters.

A theme common throughout countries in the West Africa region is a paucity of data on reported fish landings. Without an indication of fishing effort and species specific landings, it is very difficult to quantitatively assess the true threat that fishing poses to a variety of Chondrichythan fish populations in West Africa. FAO data indicates that elasmobranch landings steadily increased since the mid 1990s. In the late 1990s this decreased and since appears to have stabilized (see Figure 1 in the Supplementary Material).


Considering the lack of reporting in artisanal fishing and the number of foreign vessels fishing, legally and illegally within this region, the actual landings are likely to be much higher. Laurens et al. (2004) analysed the trophic structure of demersal fish communities in Senegal and Guinea and found the abundance of sharks, skates and rays had decreased in large proportions. The high trophic level which these species characteristically occupy renders them very vulnerable to fisheries exploitation (Roger and © The IUCN Red List of Threatened Species: Glaucostegus cemiculus – published in 2016. http://dx.doi.org/10.2305/IUCN.UK.2016-3.RLTS.T63132A104009894.en
Artisanal fisheries

In Guinea-Bissau it is one of the main targets of specialised fishing teams. During the early 1990s there was an influx of fishermen from Senegal, Guinea-Conakry and the Gambia into Guinea-Bissau, specifically to fish the Blackchin Guitarfish using bottom set nets. Preliminary surveys from the IUCN Guinea-Bissau programme in collaboration with Centre of Applied Fisheries Research indicate that populations have diminished substantially (Fowler et al. 2005). Between 1998-2003 this species was heavily targeted within the Banc d’Arguin, Mauritania. Catches of approximately 400 t per year were caught with specialised nets (M. Ducrocq pers. comm. 2006). During this period of targeted capture, size reduction became apparent. At the beginning of the fishery adults were caught, however now the catch is primarily composed of immature individuals (M. Ducrocq pers. comm. 2006). Valadou (2003) studied the affect of conservation measures which have been implemented in the Banc d’Arguin. Net size limitations and seasonal limits were introduced in 1998. The fishery was closed from mid-September to the end of January, when the birth and mating events take place along the coastline. This seasonal closure increased in length up until 2003, after which a complete ban on elasmobranch fisheries within the area came into force. Subsequent to enforcement of the management measures in the Banc d’Arguin, the size reduction of specimens was reversed (Valadou 2003). This was in contrast to the southern regions outside of the National Park, where, in the absence of management measures the size reduction continues (Valadou 2003). Today, this species is found along the length of the Mauritanian coast, however it is more abundant in the Banc d’Arguin (K. Brahim pers. comm. 2006). Since the ban it is still caught as incidental bycatch of teleost gillnet fisheries.

Artisanal landing site surveys in Guinea-Conakry were performed from October 2001 and May 2002. Similar to Guinea-Bissau, the fishermen in Guinea-Conakry were from Ghana and Senegal. The following information was collected from specialised artisanal gillnet fishermen; bottom set and drift gillnets gear types were employed to target sharks and batoids, respectively. The mesh size of gillnets ranged from 120 to 200 mm. During the study period, the number of Glausostegus cemiculus captured were recorded, size of which in total length (TL) ranged from 60-238 cm and 0.5-58.5 kg in weight. This species was previously fished during a six month season from November to April. However, in October 2002 the fishing season increased to eight months, from October to May. Now, the fishing season has increased to all year round. From February to June 2001, 127 specimens were landed at the sites under survey, and from October 2001 to June 2002, 946 individuals were landed (which coincides with the birthing and mating season of this species. During the months of November and December fishermen were landing gravid females, which are specifically targeted for the large size of their fins (F. Doumbouya pers. comm. 2006). Embryos (34 cm TL) were discarded, however finning of embryos has been reported (M. Ducrocq pers. comm. 2006).

Within Sierra Leonese waters, Glausostegus cemiculus is the most dominant batoid landed within artisanal fisheries. This guitarfish accounts for 40.47% of the number of batoids landed and 39.51% total batoids landed, by weight (Seisay 2005). On a less specific level, rays are also captured as bycatch to industrial shrimp and finfish fisheries, in Sierre Leone shark and rays bycatch landings make up an estimated 0.8 to 1.0% of the total reported catch (Seisay 2005) (see Figure 2 in the Supplementary Material).

Figure 2. Industrial fishery production (mt) of rays in Sierra Leone waters. Original data (Seisay 2005).
There is no information available on the fishing effort, which limits the conclusions that can be drawn from this data, however in the absence of further information, it can be used to provide a preliminary indication for the national bycatch shark landings of Sierra Leone. It is likely that the actual number of sharks landed as bycatch by industrial fisheries is far greater, as this represents only the reported landings of legal fisheries. Although this data is not species specific, it gives an indication of the quantity of sharks landed in this country. Similar fisheries operate throughout the rest of the region.

It is also caught as bycatch to industrial demersal trawl fisheries targeting cephalops and crustaceans and coastal teleosts.

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

**Mediterranean**
The Mediterranean Action Plan for the conservation of chondrichthyan fishes recognises the urgent need to assess the status of *Rhinobatos* species, as a species that may be at high risk of threat in the region (Anonymous 2003).

**West Africa**
Measures in place:

**Mauritania**
This species is protected as part of a ban on directly targeted elasmobranch fishing in the Banc d'Arguin, Mauritania, which was implemented in December 2003. In this national park, management measures specific to this species were also introduced (M. DuCrocq pers. comm. 2006). The fishery was closed from February to September, to avoid the partuition period and therefore the capture of pregnant females. After negotiations with local fishermen, gear restrictions were introduced (to stop fishing with bottom gillnets of 1 to 2 m height and 11 to 16 cm (one side) square mesh). Increased abundance have been observed in and around the bank, suggesting the protection was effective (M. DuCroq pers. comm. 2006).

**Sierra Leone**
There are no species specific regulations for the management of shark and shark fisheries in the Sierra Leone. However, a licensing system for artisanal fishing canoes, both foreign and Sierra Leone owned is payable to the Ministry of Fisheries and Marine Resources and the Local Government Administration (Seisay 2005). A National Action Plan for the conservation and management of sharks is being proposed. Some of the recommended management measures include: Area and seasonal closure to shark fisheries, effort limitation of the shark fishery and discarding of immature and/or juvenile shark and ray species.

**Guinea-Bissau**
There are marine protected areas inside the Bijagos archipelago (the Formosa Islands UROK marine reserve), the PNO marine reserve (Orango Islands) and the PNMIJO marine reserve (Joao Vieira and Poilao Islands). Within these areas, trawling and the use of nets is forbidden, the only gear type allowed is fishing with longlines. Furthermore, fishing is only allowed for subsistence purposes, commercial fishing is not permitted (Bucal 2006).

Measures required:
East Atlantic
A seasonal ban on the targeted exploitation of this species elsewhere within the West African region would decrease the rate of capture of reproductively active individuals (M. Ducrocq pers. comm. 2006). A ban on finning and the dumping of carcasses should be considered, as this would represent the most effective method of decreasing the fishing pressure on this species. Otherwise, the implementation of licences for targeted and non-targeted shark fishing and finning and a tax system on shark fins are recommended as measures to control the fishing pressure on this species.

Mediterranean
The development and implementation of management plans (national and/or regional e.g., under the FAO International Plan of Action for the Conservation and Management of Sharks: IPOA-Sharks) are required to facilitate the conservation and sustainable management of all chondrichthyan species in the region. Fishing effort within the region should be monitored and species specific landings should be recorded. Further study on the range of the species and the use of specific critical coastal habitats, in particular reference to the negative impact of trawling.

There are no species specific management measures currently in place for this species.

Credits
Reviewer(s): Cavanagh, R.D., Ducrocq, M. & Valenti, S.V. (Shark Red List Authority)
Bibliography


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Appendix

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

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Conservation Actions Needed
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