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**PROPOSAL FOR THE INCLUSION OF
THE COMMON GUITARFISH (*Rhinobatus rhinobatus*)
ON APPENDIX II OF THE CONVENTION**

Summary:

The Government of Togo has submitted the attached proposal* for the Common Guitarfish (*Rhinobatos rhinobatos*) to be included in Annex II to the CMS.

Proposals for the same taxon to be included in Annex II to the CMS have been independently submitted by the Governments of Israel, Senegal and Togo.

The related proposals are found in documents UNEP/CMS/COP12/Doc.25.1.24 (a) (b) and (c).

Rev.1 includes amendments presented by the proponent to introduce a more accurate proposal in regard to the range of distribution of the assessed population, according to paragraph 2 of Article 21 of Rules of Procedure for meetings of the Conference of the Parties (UNEP/CMS/COP12/Doc.4/Rev.1), and taking into account the recommendations of the Second Meeting of the Sessional Committee of the Scientific Council, contained in UNEP/CMS/COP12/Doc.25.1.24(b-d)/Add.1.

*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 OF THE
CONVENTION ON THE CONSERVATION OF MIGRATORY SPECIES OF WILD ANIMALS**

A. PROPOSAL:

Inclusion of the Common Guitarfish (*Rhinobatos rhinobatos*), in Appendix II.

B. PROPONENT: Togo

C. SUPPORTING STATEMENT

1. Taxonomy

1.1 Class: Chondrichthyes (Subclass: Elasmobranchii)

1.2 Order: Rhinopristiformes

1.3 Family: Rhinobatidae

1.4 Genus or Species: *Rhinobatos rhinobatos* (Linnaeus, 1758)

1.5 Scientific Synonyms

1.6 Common name(s):

English	Common Guitarfish, Violinfish
Spanish	Guitarra, Guitarra Común, Guitarró
French	Guitare De Mer Commune



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

2. Overview

Rhinobatos rhinobatos is a medium-sized cartilaginous fish within the Rhinobatidae family of rays. Mature adults (>70-80 cm TL) in the transboundary stocks off the coast of West Africa and in the Mediterranean, migrate seasonally from deep water (100-180 m) into shallow coastal areas to give birth and mate. Seasonal north-south migration is also reported from the Atlantic. The Common guitarfish is targeted by coastal fisheries for its meat and fins during its breeding migrations, and is also taken as a bycatch in net and trawl fisheries.

This species is no longer recorded from the Atlantic coast of Europe and has also been extirpated from much of the northern Mediterranean. The global Red List assessment is Endangered (2007). The regional assessments for European waters (2015) and the Mediterranean (2016) are also Endangered.

The Common guitarfish *Rhinobatos rhinobatos* would greatly benefit from better regional and international co-operation to regulate target and bycatch fisheries (particularly those associated with seasonal breeding migrations), halt population declines, and ensure the recovery of Mediterranean, Southern European and Western African stocks.

3. Migrations

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

Populations of *Rhinobatos rhinobatos* undertake seasonal migrations, in which reproductive adults move from deep water up to 180 m (Notarbartolo di Sciara et al. 2007), to nearshore shallow waters to give birth and mate. These migrations are so predictable that West African fishers in Mauritania, Senegal, Guinea, Guinea-Bissau, and Sierra Leone synchronize their fishing activities with the arrival of *R. rhinobatos* (Ducrocq & Diop 2006, Newell 2016). Similar migrations occur in other parts of this species' range (e.g. Turkey: Baştusta et al. 2008).

These seasonal migrations result in cyclical and predictable crossings of international borders, both between States and between territorial waters and the high seas. The deeper water location of adults outside the breeding season has not been well studied, although trawl surveys carried out in form of the coast of Sierra Leone indicate that *R. rhinobatos* moves northwards during the winter-spring seasons (Notarbartolo di Sciara et al. 2007).

Even though, bibliography has widely documented shark and ray migratory behaviour, we do not have a thorough knowledge about how *R. rhinobatos* moves along the coast nor about its movement among the coastal and marine habitats. However, some studies indicate that rays related to the shark family in appearance and behaviour are highly migratory. (White et al.2013)

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

All reproductively active adults migrate to breed. Research has not been undertaken into the migrations of juveniles and sub-adults.

Fully understanding migratory patterns in this species will likely be hindered by declining population sizes. Furthermore, guitarfish tagging studies often report low recapture rates, possibly due to high tag loss, and/or high induced tagging mortality (Dunlop and Mann 2013).

There is scarce information on the spatial structure of *R. rhinobatos* in its areas of distribution and we know very little about how individuals use coastal habitats and move between these habitats and the open sea, although they can be important in different phases of their life. However, some qualitative information indicates that the populations of *R. guitarfish* undertake seasonal migrations in which reproductive adults move in shallow waters to mate and reproduce.

The migration patterns of *R. rhinobatos* appear similar to those of other members of this genus. *Rhinobatos horkelii*, the critically endangered Brazilian guitarfish, migrates to shallow coastal waters (depth less than 20 m) from November to March to reproduce (Lessa and Vooren 2007). Movement from deeper waters to shallow areas is also well documented for *Rhinobatos productus* and *Rhinobatos glaucostigma*, in the Gulf of California. These two guitarfish species are caught in bottom gillnets from March to June, when gravid females migrate to shallower waters (Blanco-Parra et al. 2009).

Other species related to the shark family because of their appearance and behaviour have been studied. For example, *Glaucostegus typus*, *Rhinobatos productus*, and *Zapteryx exasperata* return regularly to the same locations and undertake seasonal migrations to the coastal areas for mating and/or reproducing (White et al. 2013; Catillo-Páez et al. 2013). As seasonal migration takes place in shallow water, the reproduction of the common guitar fish is especially vulnerable to intensive coastal fishing using a variety of non-selective fishing gear (e.g. gill nets and trawls).

It is reasonable to assume that *R. rhinobatos* and other batoids related to the shark family by their appearance and behaviour, are capable of migration in a way that allows them to cross national borders, at least in certain places where the range of the species comprises several small countries. This also validates the importance and urgency of a concerted research relating to all age categories, highlighting the ontogenetic changes in habitat use and potential anthropic impacts, so that the management and conservation strategies are better informed.

This seasonal migration to shallow waters makes breeding guitarfishes particularly vulnerable to coastal gillnet and trawl fishing activities.

4. Biological data

4.1 Distribution (current and historical)

The historical distribution of *Rhinobatos rhinobatos* (Figure 2) ranged from shallow coastal waters to at least 100m and perhaps 180m depth throughout the Mediterranean and in the sub-tropical regions of the eastern Atlantic from the Bay of Biscay south to Angola (Notarbartolo di Sciara et al. 2007). Few historical fishery-independent studies have examined the range of this species and most knowledge of its former distribution comes from fishery landings data and historical collections. This species has declined throughout much of its range, and has now likely been extirpated from the Mediterranean waters of Spain, France, Italy, and perhaps the entire Adriatic Sea. (Newell 2016).

R. rhinobatos is now more prevalent in the southern and eastern regions of the Mediterranean (McEachran et al. 1984), particularly around the Gulf of Gabes on the East coast of Tunisia (Capapé et al 1997) and across to the Turkish waters of the eastern Mediterranean (Ismen et al. 2007).

While there are historical records of *R. rhinobatos* in northern Mediterranean waters, they appear to have been extirpated from this part of their range (Lteif, 2015). In the Mediterranean coastline off France, *R. rhinobatos* was formerly 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 2016). Once frequently recorded in the Spanish waters during the early 20th century, *R. rhinobatos* have been 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).

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 10-800m off Morocco, Spain, and France; the Tyrrhenian Sea including the coast of Corsica, Sardinia, and Sicily; and the Adriatic, Ionian, and Aegean Seas, and coast of Cyprus. These surveys did not record any *R. rhinobatos* during 1994-2015 (Newell 2016, MEDITS 2016).

R. rhinobatos still occurs in the waters of Tunisia, where there is a targeted fishery and the species is also commonly taken as bycatch (Abdel-Aziz et al. 1993, Lteif 2015). Similarly, it occurs in fishery landings, along the north coast of Africa, and in the eastern Mediterranean from Israel where the species was considered common as of 2006, to southeastern Turkey (Newell 2016, Notarbartolo di Sciara et al. 2007). In a historical reference to fishing activity along the Israeli coast or in the nearby Bardawil Lagoon on the Egyptian Sinai Peninsula, Lernau and Golani (2004) stated, “swarms of *Rhinobatos rhinobatos* are captured with purse seines.” (Newell 2016). In the Lebanese longline fishery *R. rhinobatos* is one of the most commonly observed elasmobranchs landed with high volumes landed in Tripoli (Lteif 2015). Information regarding this species in the eastern Atlantic is limited, but records indicate that this species is still frequently found from Mauritania to Sierra Leone where Rhinobatids are caught as bycatch of shrimp trawl fisheries operating in shallow inshore waters (Diop & Dossa 2011; Newell 2016; Notarbartolo di Sciara et al. 2007).



Figure 2. Historical range of *Rhinobatos rhinobatos* (Modified from Last et al. 2016).

4.2 Population (estimates and trends)

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

Few sharks and rays are targeted by fisheries in the northern Mediterranean, yet many elasmobranch species are caught as an incidental bycatch (Fowler et al. 2005). Several elasmobranch populations are considered overfished with other species, such as the Mediterranean populations of sawfishes (*Pristis* spp.) and common skates (*Dipturus batis*) now locally extinct. A sympatric species blackchin guitarfish *Rhinobatos cemiculus* has also been extirpated for 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.

In the eastern part of the Mediterranean, where *R. rhinobatos* is sometimes targeted, abundance data are also limited. However, in key fishing states like Tunisia, where this species has been targeted by artisanal fishers for decades, landings indicate declines in abundance and catches contain a large proportion of immature individuals (Notarbartolo di Sciara et al. 2007). Many other targeted shark and ray species in these waters are also experiencing population declines. While Lteif (2015) notes that this species is one of the most common batoid species in the Lebanese longline fishery, 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 but is now described as scarce (Newell 2016).

4.3 Habitat (short description and trends)

R. rhinobatos occurs in coastal, lagoonal and estuarine sandy bottomed, unvegetated habitats, from very shallow water to depths of at least 100 m offshore (Notarbartolo et al. 2007 cite a maximum depth of 180 m). This exposes this species to a significant and increasing fishing pressure, in areas that are also suffering from degradation or habitat loss as a consequence of coastal development (Moore, 2017; Newell, 2017).

4.4 Biological characteristics

Species description

Rhinobatos rhinobatos is a medium-sized cartilaginous fish within the Rhinobatidae family of rays, or batoid fishes. The smallest individual reported had a total length of 22 cm, and the largest (unconfirmed) was ~200 cm (Newell 2016), although Last et al. (2016) report a maximum length of about 100 cm. 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

Rhinobatos rhinobatos is a bottom dwelling species that consumes a variety of macrobenthic organisms such as crustaceans, fishes, and molluscs (Abdel-Aziz 1993b, Basusta et al. 2007, Lteif 2015, Newell 2016). 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 crustaceans and fishes were the primary prey for adults. Lteif (2015) found six prey categories: crustaceans (Penaeidae, Brachyura, Squilladae, 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 in winter, and Penaeidae in both seasons. Basusta et al. (2007) concluded that these fish are indiscriminate predators, preying on any species available regionally (Newell 2016).

Reproductive characteristics

This species is a medium sized guitarfish reaching up to approximately 100 cm (Last et al. 2016) in length, although recorded sizes vary widely in different locations, with Mediterranean specimens apparently reaching a larger size than those from the Atlantic (Newell 2016). Maturity is reached around 75cm total length (TL) for females and 70cm TL for males. Information regarding litter sizes vary. One study in Alexandria waters, 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). This species is aplacentally viviparous, producing live young with embryo nutrition provided by a yolk sac.

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

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). Başusta et al. (2008) determined the age-length relationship for this species and found a maximum age of 24 years in Turkish waters. (Some studies indicate no significant difference in size between sexes (Abdel-Aziz 1993, Lteif 2015), but females reach maturity at a slightly larger size and reach greater lengths (literature review by Newell 2016). Its limited reproductive capacity leaves *R. rhinobatos* vulnerable to overexploitation.

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	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 1. Reproductive characteristics for *R. rhinobatos* (Table modified from Newell 2016)

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 many guitarfishes.

5. Threat data

5.1 IUCN Red List Assessment

Endangered (criterion A4cd) globally (Notarbartolo di Sciara et al. 2007).
Endangered (criterion A2b) in the Mediterranean (Bradai and Soldo, 2016).
Endangered (criterion A2b) in European waters (Bradai and Soldo, 2015).

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 from northern Mediterranean waters by unregulated fishing, including historic target fisheries and more recently as a bycatch. There are still unregulated target fisheries in southern and eastern Mediterranean waters.

In the species' West African range, Guinea-Bissau, West Africa, *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 mostly use gillnets to target *Rhinobatos* spp. with *R. rhinobatos* being a main target species. *R. rhinobatos* is also caught off beaches with hook and line on the coast of Mauritania.

5.4 Threats connected especially with migrations

The migration from deep water into shallow water pupping and mating grounds makes the reproductively active segment of the population highly vulnerable to targeting and bycatch in unregulated coastal fisheries. Destruction and habitat loss are serious threats to the *R. rhinobatos*. Although, site fidelity is not documented in regard to this species, other shark-like batoids (e.g. *G. typus*, *R. productus*) show it and undertake seasonal coastal migrations to coastal areas important for mating and/or reproducing (White et al., Newell, 2017).

5.5 National and international utilization

This species is utilised nationally for its meat. The meat may also be traded (salted and dried) with neighbouring African countries.

The fins of guitarfishes are highly valued in international trade because of the density and quality of the fin rays that they contain. The demand for their fins as an ingredient for shark fin soup has been the major driver of target *Rhinobatos* fisheries on the coast of West Africa.

6. **Protection status and species management**

6.1 National protection status

All species of Chondrichthyan fishes are protected in Israel waters.

Some States have adopted regulations to implement the listings of guitarfishes under the Barcelona Convention and by the General Fisheries Committee for the Mediterranean (see below), but compliance monitoring and enforcement is often poor (Newell 2016). For example, the regulations adopted by Lebanon are reportedly neither being followed nor enforced (Lteif 2015).

Tunisia has restricted the retention of rays and skates less than 40cm, which if implemented for guitarfishes will protect new-borns and the youngest juveniles.

In 2017, the United States government granted protection to *R. rhinobatos* under the Endangered Species Act. Although the range of this species falls outside US jurisdiction, this protection which entails trade restrictions, specifically the ban on import, export, taking or trade of this species between states. It will also raise awareness on the threats *R. rhinobatos* is facing and on the use of US resources to encourage Range States to undertake and implement conservation efforts (NOAA, <http://www.nmfs.noaa.gov/pr/species/esa/foreign.htm>).

6.2 International protection status

R. rhinobatos was listed in Annex II of the SPA/BD protocol of the Barcelona Convention in 2012. This “requires Mediterranean countries to undertake maximum, cooperative efforts for their protection and recovery, including controlling or prohibiting their capture and sale, prohibiting damage to their habitat, and adopting measures for their conservation and recovery.”

In 2012, the GFCM adopted recommendation GFCM/36/2012/3, which prohibits those sharks on Annex II of the SPA/BD Protocol from being retained on board, transhipped, landed, transferred, stored, sold or displayed, or offered for sale by Contracting Parties and Cooperating non-contracting Parties (CPCs) of the GFCM. It also requires CPCs to release the species unharmed and alive.

6.3 Management measures

EU Council Regulation 2017/127, Article 12, lists guitarfishes (*Rhinobatidae*) as prohibited species in the European Union waters of ICES subareas I, II, III, IV, V, VI, VII, VIII, IX, X and XII.

Trawl fishing within 3 miles of the coast has been prohibited by the General Fisheries Council for the Mediterranean since 2012.

6.4 Habitat conservation

Some coastal marine protected areas and seasonal fisheries closures provide incidental protection for breeding, pupping and nursery grounds (Newell 2016).

6.5 Population monitoring

Very limited monitoring takes place in the majority of this species' range.

7. **Effects of the proposed amendment**

7.1 Anticipated benefits of the amendment

Given the severe declines that *R. rhinobatos* has suffered throughout its range, that are as severe as regional extirpation, regional and international conservation action is needed as a matter of priority, particularly in the species remaining strongholds in West Africa.

This amendment will focus efforts to prioritise the conservation of the species, either domestically in range states or regionally and internationally via RFB's and RFMO's and complementary tools such as the CMS Memorandum of Understanding (MoU) on the Conservation of Migratory Sharks and CITES.

7.2 Potential risks of the amendment

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

The governments of Togo, the Islamic Republic of Mauritania, and the Republic of Senegal suggest working together with the other Range States to undertake concerted actions upon listing the Common Guitar fish in Appendix II of the Convention and suggest the following interim measures.

Activity	Outputs/Outcome	Timeframe	Responsibility	Funding
Support the inclusion of the Common Guitar fish in the Sharks MOU	Common Guitar Fish proposed for inclusion Sharks MOU at MOS3.	End 2018	Range State Parties who are also Signatories to the Sharks MOU; Cooperating Partners to the Sharks MOU.	No funding needed
Encourage and strengthen national, regional and international coordination for <i>R. rhinobatos</i> , eventually through the establishment of a <i>Rhinobatos</i> /guitar fish group	Secured support for specific conservation measures	2018/2019	Range States, Non-Parties from West Africa and the Mediterranean	Funding may be needed to host a meeting
Promote research and tagging, improve data collection to obtain better population estimates	Reduced uncertainty in estimates of abundance for a better management	2018/2019	Range States; NGOs	Fundraising may be needed
Identify the main actions for the efficient management of the populations through the Coordination Group	Adopted actions directed to reduce mortality to recover to sustainable levels thanks to national legislation or to regional fisheries bodies	2019	Range State Parties;	No funding needed

8. Range States

Some portion of the transboundary stocks of *Rhinobatos rhinobatos* occur in areas beyond national jurisdiction, particularly in the Mediterranean Sea, therefore CMS Article I h) should be considered in determining a Range State:

“A Range State in relation to a particular migratory species means any State [...] that exercises jurisdiction over any part of the range of that migratory species, or a State, flag vessels of which are engaged outside national jurisdictional limits in taking that migratory species.”

This means that range States also include those fisheries nations operating in high seas areas where *Rhinobatos rhinobatos* occurs.

Parties to CMS:

Angola, Antigua and Barbuda, Australia, Bangladesh, Benin, Cameroon, Cabo Verde, Chile, Congo, Cook Islands, Costa Rica (Cocos I.), Côte d’Ivoire, Cuba, Democratic Republic of the Congo, Djibouti, Ecuador, Egypt, Equatorial Guinea, Eritrea, France (French Polynesia, Clipperton I., Guadeloupe, Guyana, Martinique, New Caledonia), Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Honduras, India, Israel, Jordan, Madagascar, Mauritius, Netherlands (Aruba, Curaçao), Mozambique, New Zealand, Nigeria, Palau, Panama, Peru, Philippines, Portugal (Madeira), Samoa, Sao Tomé and Príncipe, Saudi Arabia, Senegal, Somalia, South Africa, Spain (Canary Is.), Sri Lanka, Tanzania, United Republic of, Togo, United Kingdom (British Virgin Islands, Cayman Islands, Montserrat, Turks and Caicos Islands,), Yemen.

Other Range States

9. Consultations

10. Additional remarks

11. References

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