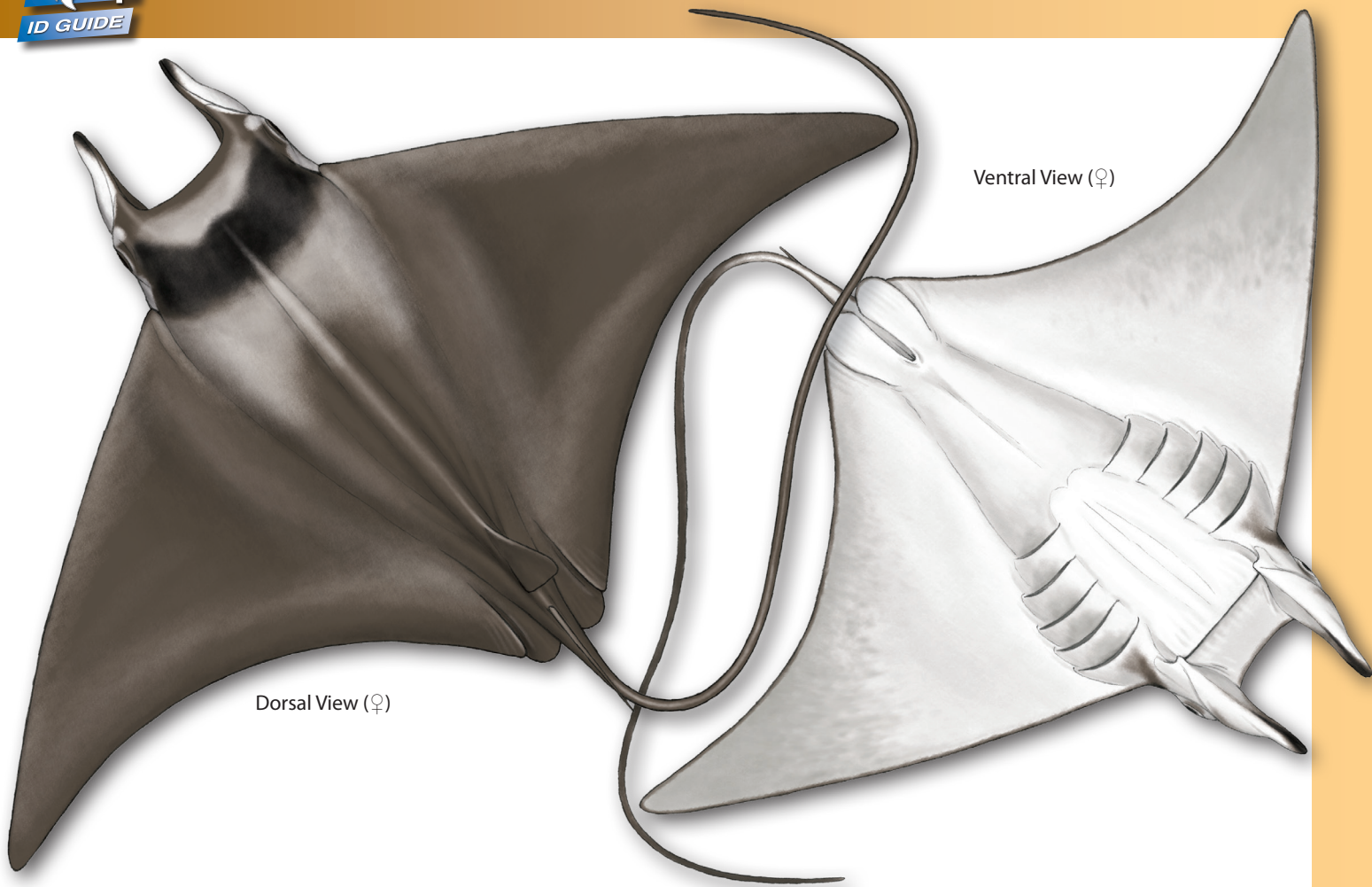




Dorsal View (♀)

Ventral View (♀)

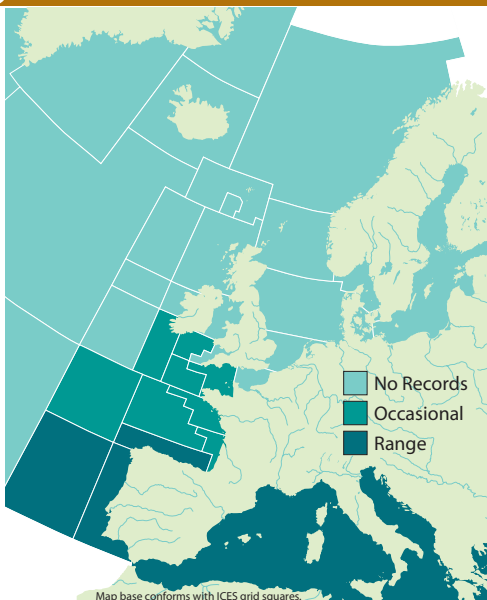
COMMON NAMES

Giant Devil Ray, Mediterranean Devil Ray, Devil Fish, Horny Ray, Mante (Fr), Kleiner Teufelsroche (De), Manta (Es), Diavolo di Mare (It).

SYNONYMS

Raia mobular (Bonnaterre, 1788), *Raja fabronia* (Lacepède, 1800), *Raja cephaloptera* (Schneider, 1801), *Raja giorna* (Lacepède, 1803), *Mobula auriculata* (Rafinesque, 1810), *Apterurus fabroni* (Rafinesque, 1810), *Cephalopterus massena* (Risso, 1810), *Cephaloptera giorna* (Lacepède, 1803), *Dicerobatis giornae* (Günther, 1870), *Cephaloptera (Dicerobatis) rochebrunei* (Vaillant, 1879), *Cephaloptera edentula* (Griffini, 1903), *Mobula giorna* (Went, 1957).

DISTRIBUTION



The Giant Devil Ray is primarily a Mediterranean species although it is known in the North Atlantic from Senegal to northern Spain. There is a record of a vagrant from southwest Ireland. Expert examination is required to distinguish it from the Spinetail Devil Ray, *Mobula japanica*, meaning its Atlantic range may be more limited than thought (Notarbartolo di Sciara *et al.*, 2006).

APPEARANCE

- Dorsoventrally flattened with broad head and subterminal mouth.
- Pectoral fins extend past head, forming distinct cephalic fins.
- Dorsal fin small and at base of tail.
- Long, thin tail with prickly spines.
- Dark brown to bluish black dorsally.
- White ventrally.
- Teeth in 150–160 vertical series.
- To 520cm disc width (DW) and 650cm total length (TL).

A massive species growing to more than 5m DW, the Giant Devil Ray is the only member of the *Mobula* genus found in the northeast Atlantic and Mediterranean. It can be distinguished from similar species in these regions by the cephalic fins projecting beyond the head. There are one or more serrated spines at the base of the tail. Adults have thornlets on both surfaces and tail, although they are more densely covered ventrally (Whitehead *et al.*, 1986).

Dorsally it is brown to bluish black with no distinct white patterning. Ventrally it is white. The teeth in adults form 15–160 vertical series. The flanges on the outer margins of adjacent gill plates are not fused together, forming branchial filter plates (Whitehead *et al.*, 1986). The maximum recorded size is from a specimen captured off Algeria which measured 520cm DW and 650cm TL. However, they are normally encountered around 300cm DW (Serena, 2005).

SIMILAR SPECIES

Myliobatis aquila, Common Eagle Ray

Pteromylaeus bovinus, Bull Ray

Rhinoptera marginata, Lusitanian Cownose Ray

Mobula mobular,
Giant Devil Ray

Myliobatis aquila,
Common Eagle Ray

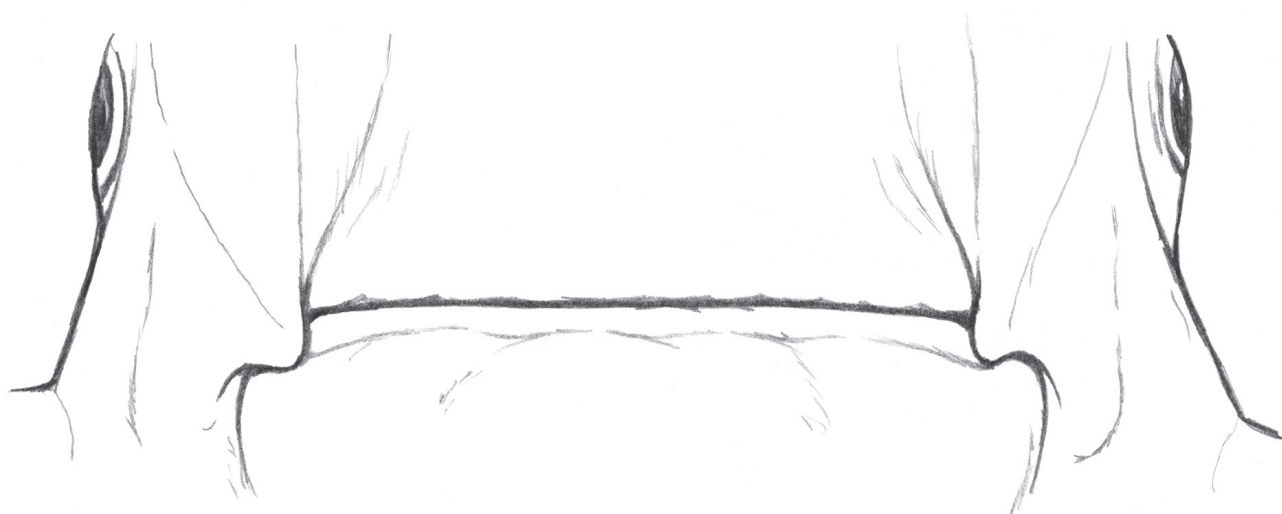
Pteromylaeus bovinus,
Bull Ray

Rhinoptera marginata,
Lusitanian Cownose Ray

(Not to scale)

TEETH

Sharp cusped teeth, 54–60 rows in the upper jaw (Farias *et al.*, 2005. Clark, 1926).



ECOLOGY & BIOLOGY

HABITAT

The Giant Devil Ray is an epipelagic species primarily found in offshore deepwater over continental shelves. It can be found from the surface to a depth of several thousand metres (Notarbartolo di Sciara *et al.*, 2006). Often seen in groups of two or more. It may make long migrations across its range, the reasons for which are as yet unknown (Serena, 2005).

DIET

The Giant Devil Ray is adapted to feed on planktonic crustaceans and small schooling fishes with the gills forming branchial filter plates. In the Mediterranean Sea, the most important prey item is the euphasiid shrimp, *Meganyctiphanes norveggica* (Notarbartolo di Sciara *et al.*, 2006).

REPRODUCTION

An aplacental viviparous species, Giant Devil Ray embryos receive nourishment from uterine milk (histotroph) secretions. The females give birth to a single pup after a gestation period of 25 months. The largest term embryo yet recorded had a disc width of 165.9cm and weighed 35kg (Notarbartolo di Sciara *et al.*, 1988).

LATERAL VIEW OF HEAD

Mobula mobular,
Giant Devil Ray



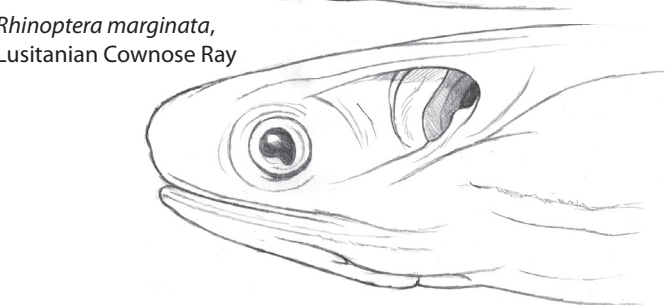
Myliobatis aquila,
Common Eagle Ray



Pteromylaeus bovinus,
Bull Ray



Rhinoptera marginata,
Lusitanian Cownose Ray



COMMERCIAL IMPORTANCE

The Giant Devil Ray is not targeted but is taken by longlines, pelagic driftnets, purse seines, trawls and fixed tuna traps. This bycatch is generally discarded (Notarbartolo di Sciara *et al.*, 2006).

IUCN RED LIST ASSESSMENT

Endangered (2006).

THREATS, CONSERVATION, LEGISLATION

Although there is no directed fishery for the Giant Devil Ray, incidental catch and mortality rates are high. It was regularly captured by pelagic driftnets targeting swordfish in the Mediterranean but the use of these was banned by the EU in 2002 (Notarbartolo di Sciara *et al.*, 2006). Illegal driftnet fishing is still a serious problem however (EJF, 2007). It is also taken by longlines, purse seines, trawls and fixed tuna traps. It is generally discarded when caught. Due to its relatively limited geographic range, habitat destruction could also be a significant threat to the species, particularly considering the poor state of many Mediterranean ecosystems. Its epipelagic habitat makes it particularly vulnerable to oil spills and heavy maritime traffic (Notarbartolo di Sciara *et al.*, 2006).

The Giant Devil Ray is included in the Annex II list of endangered or threatened species to the Protocol concerning Special Protected Areas and Biological Diversity in the Mediterranean of the Barcelona Convention, which came into force in 2001 (Notarbartolo di Sciara *et al.*, 2006). The Mediterranean wide ban on the use of pelagic driftnets should have removed one of the most significant threats to the species but it has proved difficult to enforce and unregulated fishing has continued on a large scale (EJF, 2007).

HANDLING AND THORN ARRANGEMENT

- Handle with care.
- Extremely large with venomous spine at base of tail.



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Illustrations: Marc Dando.

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