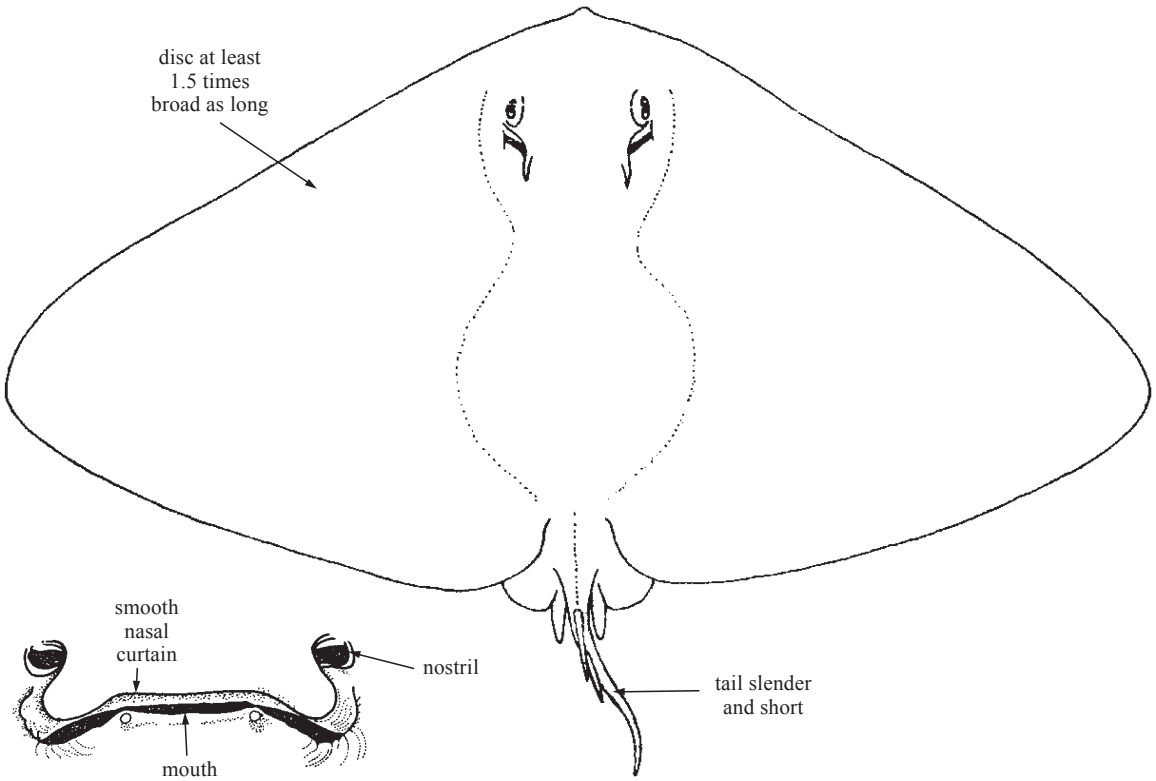
GYMNURIDAE

Butterfly rays

by J.D. McEachran, Texas A & M University, USA
and M.R. de Carvalho, American Museum of Natural History, New York, USA

Diagnostic characters: Medium to large-sized stingrays (maximum disc width over 2 m). Body strongly depressed, with head, trunk, and broadly expanded pectoral fins forming rhomboid disc. **Disc at least 1.5 times broad as long. Tail very slender and short (shorter than disc)**, distinctly demarcated from disc. **Pectoral fins continuous along sides of head, not forming subrostral lobes or cephalic fins**. Eyes and spiracles on top of head. Some species have spiracular tentacles. Snout obtuse and angular. **Nasal curtains** are broadly expanded and continuous across narrow isthmus in front of mouth and are **smooth-edged** (with rare exceptions). Mouth is slightly arched and **lacks papillae on floor**. Jaws bear many small teeth in bands. Caudal fin always absent, dorsal fin absent in all Western Central Atlantic representatives. **Pectoral fins extend distinctly posterior to origin of pelvic fins**. Pelvic fins are moderately laterally expanded and not divided into anterior and posterior lobes. Some species have 1 or more long, serrated spines. **Tail with longitudinal folds on upper and/or lower surfaces. Skin of upper side naked in most species**, but with a variable number of tubercles in large individuals of others. **Colour:** dorsal surface grey, light green, olive, purple, or dark brown, sometimes with a reddish cast, often marked with spots or lines; ventral surface white, sometimes with a bronze or rusty cast.



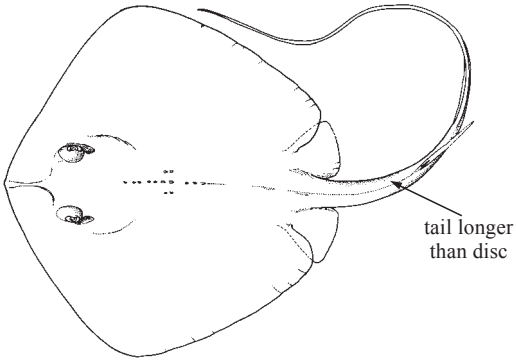
detail of mouth

Habitat, biology, and fisheries: Butterfly rays are cosmopolitan in tropical and warm-temperate waters, usually inhabiting sandy and muddy bottoms in shallow coastal waters, including estuaries and river mouths. Because they have very short tails compared to whiptailed stingrays (Dasyatidae), they pose little threat to people (some species even lack a caudal serrated spine). They are viviparous without placenta and feed primarily on crustaceans and clams. Species are often caught in bottom gill nets. Large specimens are marketed fresh and salted.

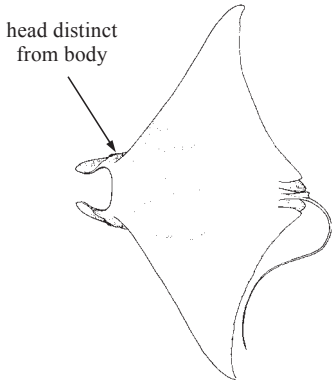
Similar families occurring in the area

Dasyatidae: disc not more than 1.3 times as broad as long; tail much longer than disc; nasal curtains deeply fringed; fleshy papillae present on floor of mouth.

Myliobatidae, Rhinopteridae, Mobulidae: head distinctly demarcated from body; anterior portions of pectorals forming separate lobes or cephalic fins; eyes and spiracles on sides of head.



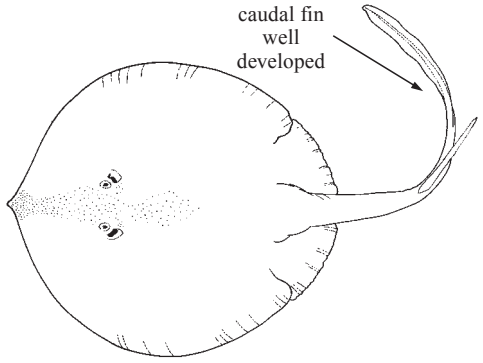
Dasyatidae



Mobulidae

Urotrygonidae: caudal fin well developed, supported by cartilaginous radials.

Other batoid families: lack serrated tail spine and have stout to moderately slender tails that are equal to or greater than 1/2 disc length.



Urotrygonidae

Key to species of Gymnuridae occurring in the area

1a. Tail with 1 or more serrated spines; posterior margin of spiracle with distinct tentacle . . . . . ***Gymnura altavela***

1b. Tail without serrated spines; no tentacle on posterior margin of spiracle . . . . . ***Gymnura micrura***

List of species occurring in the area

The symbol ◆ is given when species accounts are included.

◆ *Gymnura altavela* (Linnaeus, 1758).

◆ *Gymnura micrura* (Bloch and Schneider, 1801).

References

Bigelow, H.B. and W.C. Schroeder. 1953. Sawfishes, guitarfishes, skates and rays, and chimaeroids. In Fishes of the western North Atlantic, Part 2, edited by J. Tee-Van, C.M. Breder, A.E. Parr, W.C. Schroeder, and L.P. Schultz. *Sears Found. Mar. Res. Mem.*, 1(2).

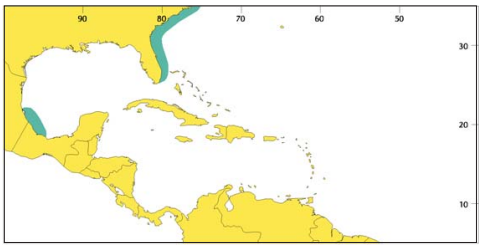
Castro-Aguirre, J.L. and H. Espinosa Pérez. 1996. *Listados faunísticos de México. VII Catalogo sistemático de las rayas y especies afines de México (Chondrichthyes: Elasmobranchii: Rajiformes: Batoideiomorpha)*. Universidad Nacional Autónoma de México.

McEachran, J.D. and J.D. Fechhelm. 1998. *Fishes of the Gulf of Mexico*, Vol. 1. Myxiniformes to Gasterosteiformes. Austin, University of Texas Press.

Gymnura altavela (Linnaeus, 1758) RGL

En - Spiny butterfly ray; **Fr** - Raie-papillon épineuse; **Sp** - Rayamariposa espinuda.

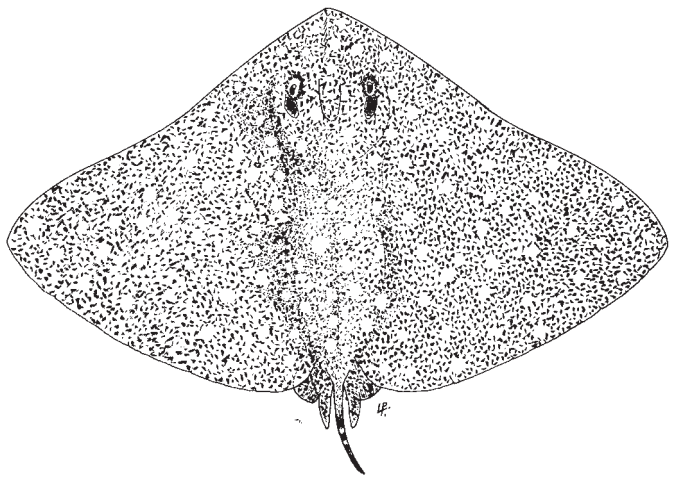
Maximum size 208 cm disc width; males mature at about 101 cm disc width; neonates 38 cm to 44 cm disc width at birth. Benthic in shallow water to 55 m. Sporadically recorded from Massachusetts to northern Argentina, but not throughout entire area; its presence in Gulf of Mexico is rarely recorded. Also recorded in eastern Atlantic. Dorsal surface dark brown to lighter brown, with small darker or lighter spots and blotches scattered on disc; ventrally creamy white.

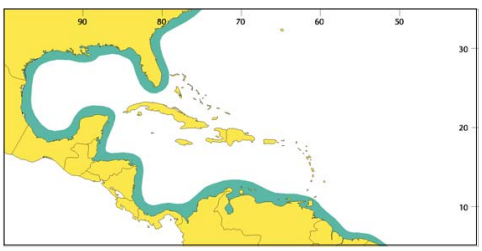


Gymnura micrura (Bloch and Schneider, 1801) RGI

En - Smooth butterfly ray; **Fr** - Raie-papillon glabre; **Sp** - Rayamariposa menor.

Maximum size 90 to 120 cm disc width; males mature at 42 cm disc width, females mature at 50 cm disc width, and neonates 16 to 22 cm at birth. Benthic along the coast over sandy bottoms, but also occurs in estuaries. Recorded from Chesapeake Bay to Brazil, and common in Gulf of Mexico, but unrecorded from the greater and Lesser Antilles. Records of *Gymnura micrura* from the eastern Atlantic, and Indian and Pacific Oceans probably refer to other species. Dorsal surface grey, brown, light green, or purplish, with vermiculate patterns of lighter and darker shades, and cross-bands on tail; ventral surface whitish, with grey disc outline. Food consists of bivalve molluscs, crustaceans including mysids, shrimps, crabs, and ray-finned fishes.



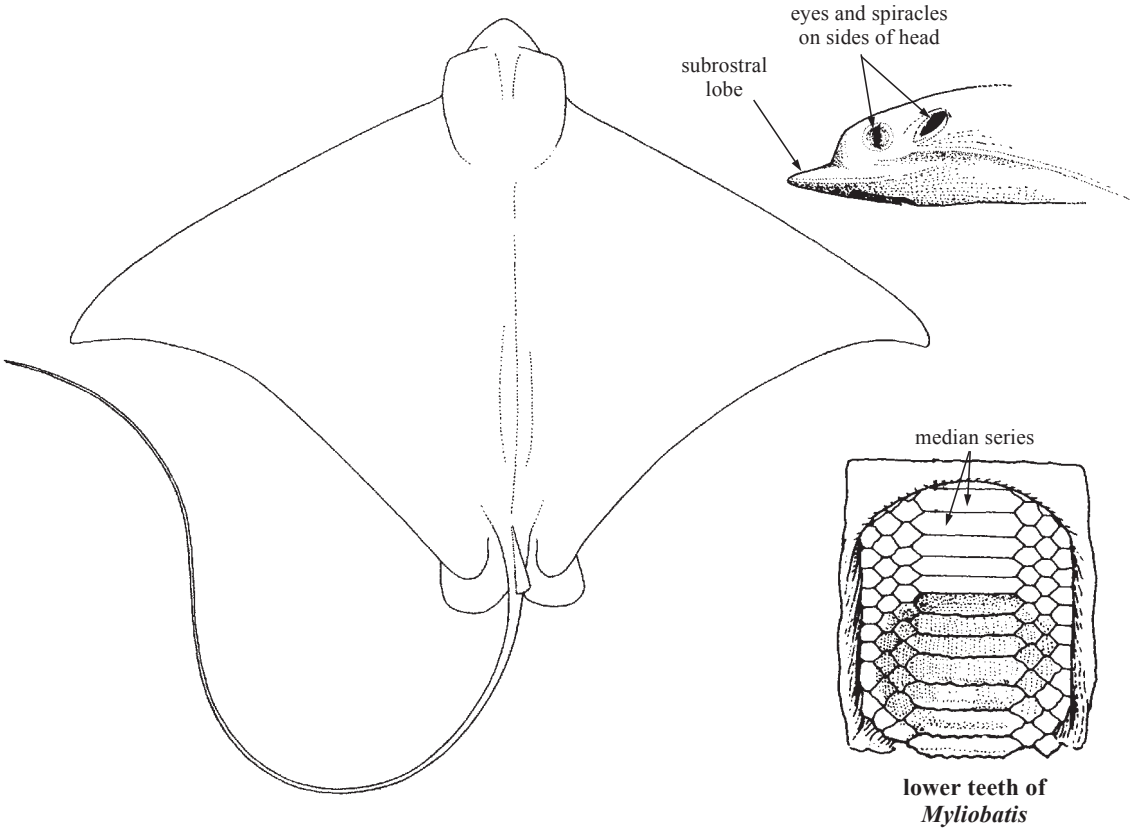


MYLIOBATIDAE

Eagle rays

by J.D. McEachran, Texas A & M University, USA and
M.R. de Carvalho, American Museum of Natural History, New York, USA

Diagnostic characters: Batoids of moderate to large size, disc width up to or greater than 2.5 m. Body strongly depressed. With head, trunk, and broadly expanded pectoral fins forming rhomboid to diamond-shaped disc. **Disc much broader than long**. Tail distinctly demarcated from disc. **Head distinctly elevated from disc, anterior portions of pectoral fins forming a projecting subrostral lobe**, with lobe either continuous or discontinuous with remainder of pectoral fin. **Eyes and spiracles on sides of head**. Mouth straight to slightly arched; several fleshy papillae on floor of mouth; **teeth flattened plates, arranged like pavement stones and in 1 to 7 series, with median series largest**. Nasal curtain well developed, with posterior free margin finely fringed and overlapping mouth. Tail whip-like and much longer than disc. **Small dorsal fin at base of tail**; poisonous serrated spine(s) present or absent at base of tail; immediately behind dorsal fin; no caudal fin. Dorsal surface naked, or with tubercles around orbits, along back, and sometimes also on tail. Ventral surface naked. **Colour:** dorsal surface usually grey to dark brown, sometimes with pale markings; ventral surface whitish, with margin of disc darker in some species.



lower teeth of *Myliobatis*

Habitat, biology, and fisheries: Eagle rays occur in tropical to temperate latitudes worldwide, over continental and insular shelves. They swim actively by flapping their pectoral fins, similar to birds in flight, and are capable of travelling long distances. They are often observed swimming near the surface, and occasionally leaping completely out of the water. However, they generally swim in groups near the bottom. Food consists of benthic crustaceans and hard shelled molluscs that are dislodged from the bottom by tips of the pectoral fins and by the subrostral lobe. All species are viviparous without a placenta. Neonates closely resemble their parents. Three species in 2 genera occur in the area. None of the eagle rays are the object of a regular fishery but some species are frequently captured in tropical waters and used for human consumption.

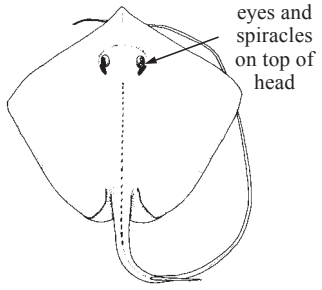
Similar families occurring in the area

Dasyatidae, Gymnuridae, Urotrygonidae: eyes and spiracles on top of head; anterior portions of pectorals continuous along sides of head, no separate subrostral lobes or cephalic fins.

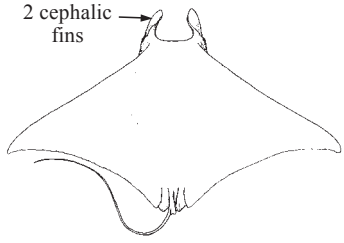
Mobulidae: anterior portions of pectorals forming 2 separate cephalic fins; teeth minute, in bands of many series.

Rhinopteridae: subrostral lobe deeply incised through midline, thus divided into 2 basally connected lobes; floor of mouth without papillae.

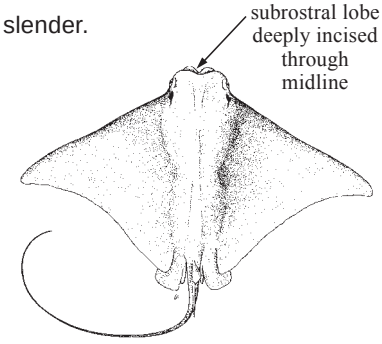
Other batoid families: lack serrated tail spine; tail is stout to moderately slender.



Dasyatidae



Mobulidae



Rhinopteridae

Key to the species of Myliobatidae occurring in the area

1a. Single series of large teeth in each jaw (Fig. 1) . . . . . ***Aetobatus narinari***

1b. More than 1, normally 7 series of teeth in each jaw, teeth of the median series much larger than those in peripheral rows (Fig. 2) . . . . → ***2***

2a. Base of dorsal fin about equal to distance between exposed nostrils; origin of dorsal fin near posterior margin of pelvic fin . . . . . ***Myliobatis freminvillii***

2b. Base of dorsal fin about 62 to 77% of distance between exposed nostrils; origin of dorsal fin well posterior to posterior margin of pelvic fin . . . . . ***Myliobatis goodei***

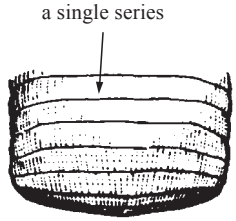


Fig. 1 ***Aetobatus***

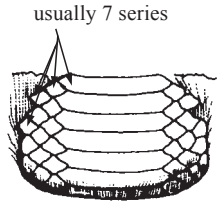


Fig. 2 ***Myliobatis***

List of species occurring in the area

The symbol ◆ is given when species accounts are included.

◆ *Aetobatus narinari* (Euphrasen, 1790).

◆ *Myliobatis freminvillii* Lesueur, 1824.

◆ *Myliobatis goodei* Garman, 1885.

References

Bigelow, H.B. and W.C. Schroeder. 1953. Sawfishes, guitarfishes, skates and rays, and chimaeroids. In Fishes of the western North Atlantic, edited by J. TeeVan, C.M. Breder, A.E. Parr, W.C. Schroeder, and L.P. Schultz. *Mem. Sears Found. Mar. Res.,* (1)Pt.2:588 p.

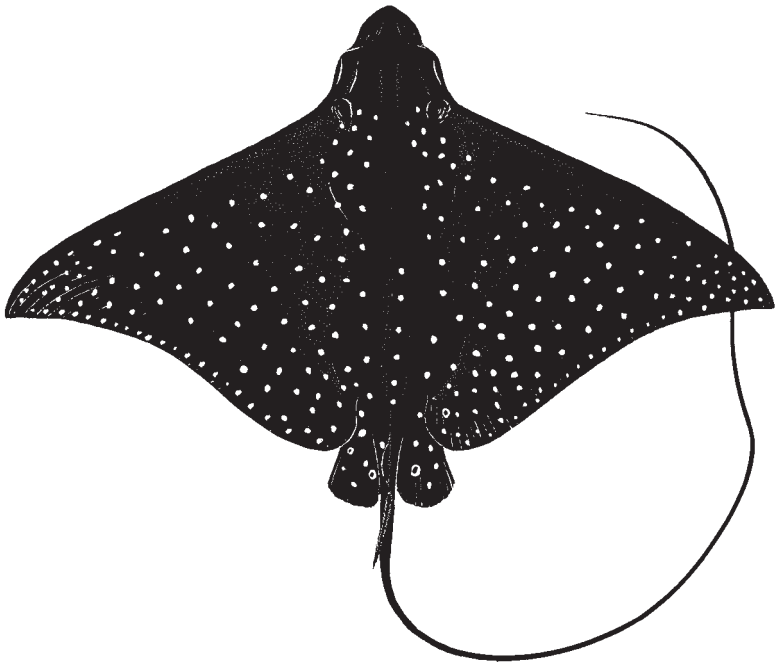
Castro-Aguirre, J. L. and H. Espinosa Pérez. 1996. *Listados faunísticos de México. VII Catalogo sistemático de las rayas y especies afines de México (Chondrichthyes: Elasmobranchii: Rajiformes: Batoideiomorpha).* Universidad Nacional Autónoma de México, 75 p.

McEachran, J.D. and J.D. Fechhelm. 1998. Fishes of the Gulf of Mexico. 1. Myxiniformes to Gasterosteiformes. Austin, University of Texas Press, 1112 p.

Aetobatus narinari (Euphrasen, 1790) MAE

Frequent synonyms / misidentifications: None / None.

En - Spotted eagle ray; **Fr** - Aigle de mer léopard; **Sp** - Chucho pintado.



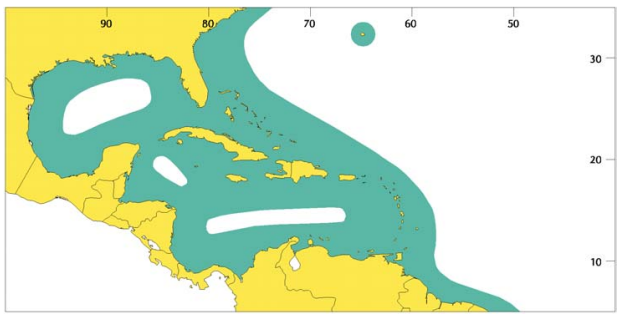
Diagnostic characters: Disc rhombic, about 2.1 times as broad as long. Head conspicuously elevated from disc; snout rounded and relatively short, 6 to 7% of disc width; subrostral lobe, below anterior part of head, rounded and separated from remainder of pectoral fins, eyes and spiracles on sides of head; **teeth in a single series, broad and flat, combined into 1 dental plate on each jaw**; nasal curtain fringed and indented at symphysis; floor and roof of mouth with a row of papillae. Outer corners of pectoral fins pointed; **small dorsal fin located between pelvic fins on base of tail**; no caudal fin. Pelvic fins are relatively narrow and extend considerably posterior to posterior margin of pectoral fins. Tail distinctly marked off from disc, whip-like, and much longer than disc. One to several long, serrated tail spines, located close behind dorsal fin; upper and lower surfaces of tail each with a low longitudinal ridge posterior to origin of spine. Skin naked. **Colour: dorsal surface grey, olive grey, or chestnut brown, with whitish, yellowish, or bluish spots variable in size and shape (rounded, elliptical, or annular)**; ventral surface white; outer margin of pectoral fins brownish.

Size: Maximum size is 230 cm disc width; common to 140 cm width; young range from 18 to 36 cm at birth.

Habitat, biology, and fisheries: Usually found in coastal surface waters, either solitary or in large schools of several hundred individuals during the summer spawning migration. An active swimmer, capable of travelling long distances; often performs spectacular leaps above the water surface during spawning time or when pursued by sharks. Viviparous without a placenta, females produce about 4 young per season. Food consists of polychaetes, bivalves, molluscs, gastropods, cephalopods, shrimps, and small ray-finned fishes. Caught frequently with longlines, trammel nets, beam trawls, and shrimp seines. Marketed salted in some localities (Antilles, Yucatán, Venezuela). Very harmful to oyster and cockle farms.

Distribution: Tropical to warm-temperate coastal areas of all major oceans. In area, recorded from North Carolina to southern Brazil, as well as the Bahamas, Greater and Lesser Antilles, Bermuda, and Gulf of Mexico.

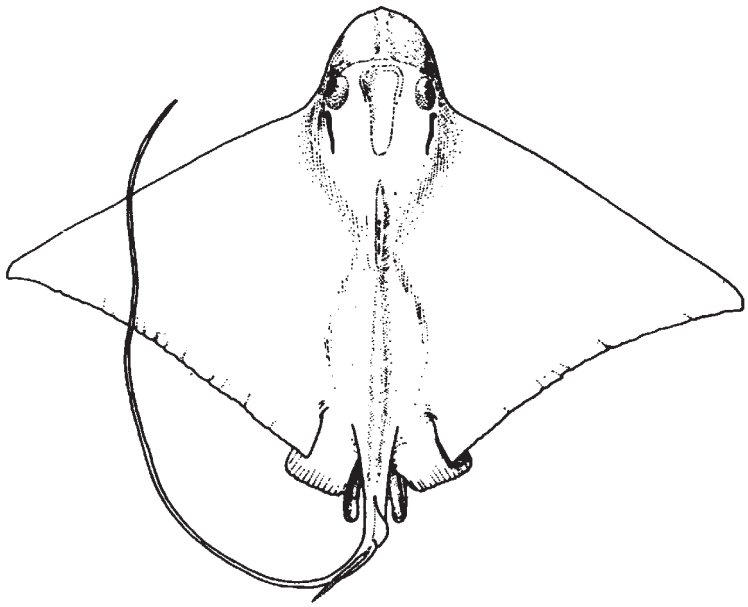
Note: Although worldwide in distribution, there are variations in colour pattern that may permit subdivision of this species into more than 1 geographically constrained species.



Myliobatis freminvillii Lesueur, 1824 MYM

Frequent synonyms / misidentifications: None / None.

En - Bullnose eagle ray (AFS: Bullnose ray); **Fr** - Aigle de mer taureau; **Sp** - Chucho blanco.

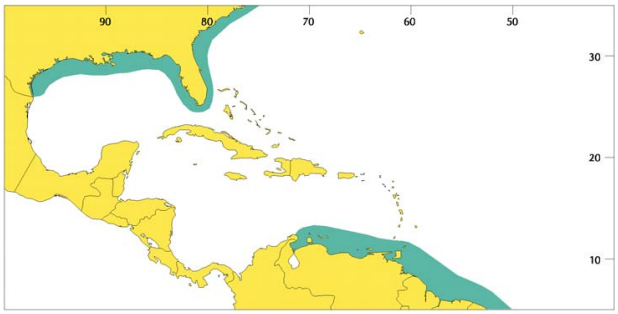


Diagnostic characters: Disc rhombic, about 1.6 to 1.8 times as broad as long. Head distinctly elevated from disc; snout moderately short, preorbital length 7 to 10% of disc width, subrostral lobe located below anterior part of head, rounded, and continuous with remainder of pectoral fins; eyes and spiracles on sides of head; **teeth flat hexagonal plates, usually in series of 7, occasionally more or fewer** (but never a single series), those of the median row much larger than the others; nasal curtains fringed and not indented at symphysis of jaws; floor of mouth with 5 or 6 papillae. **Distance between fifth gill openings about equal to distance between inner edges of nasal apertures**. Corners of pectoral fins markedly acute-angled; **small dorsal fin close behind rear tips of pelvic fins**; no caudal fin. Whip-like tail distinctly marked off from body, much longer than disc and without longitudinal folds or ridges. One or 2 long, serrated tail spines close behind dorsal fin. Skin smooth on small individuals; larger individuals with low tubercles in a medial row on shoulder, and adult males additionally with a single thorn above each eye. **Colour:** dorsal surface greyish, reddish brown, or dark brown, with diffuse whitish spots (these usually smaller than eye diameter); ventral surface white. Dorsal fin occasionally paler; posterior part of tail dark brown or black; teeth green.

Size: Maximum size 86 cm; common to 70 cm disc width; males mature at 60 to 70 cm disc width; neonates 25 cm at birth.

Habitat, biology, and fisheries: Found most frequently in coastal waters, to 10 m depth, mainly in shallow estuaries. In the northern part of its range, this species migrates northward during early summer and southward during early winter. Capable of travelling long distances; occasionally leaping out of the water. Food consists of bivalves, gastropods, and crustaceans (lobsters and crabs). Caught mainly on longlines and with trammel nets. Marketed salted in limited quantities.

Distribution: Occurs from Cape Cod (rarely) to southern Brazil, Uruguay, and northern Argentina. Also present in the northern Gulf of Mexico, but absent from the Greater and Lesser Antilles and Bahamas. Presence in the Caribbean appears to be limited to northern South America.

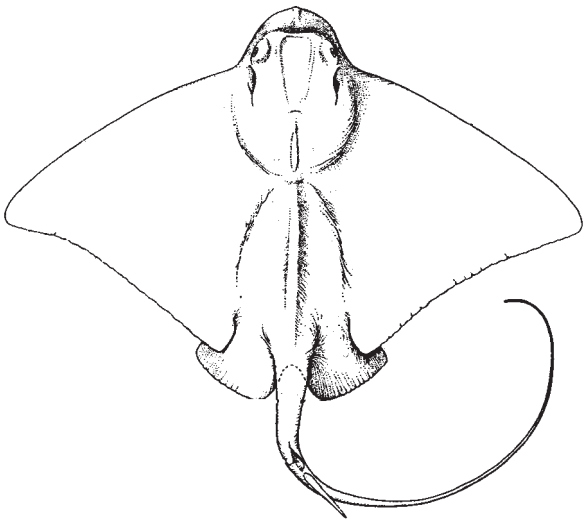


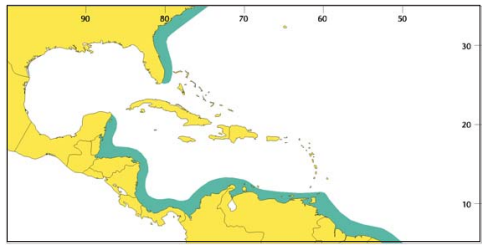
Myliobatis goodei Garman, 1885

MYO

En - Southern eagle ray; **Fr** - Aigle de mer du sud; **Sp** - Chucho amarillo.

Maximum size 99 cm disc width; males mature at 45 cm disc width. Benthic to epipelagic in coastal waters. Recorded form South Carolina to southern Florida, Caribbean coast of Central America, and northern South America to northern Argentina. Records of eastern Atlantic *Myliobatis aquila* from southern Brazil probably refer to this species, if both species are indeed distinct (if not, *M. aquila* has priority). Capable of travelling long distances. Food consists of crustaceans and bivalves. Dorsal surface chocolate brown to greyish brown; ventral surface brownish white with dusky outer disc margins. Further distinguished from *Myliobatis freminvillei* in having more blunt, less elongate, snout; greater distance between the last pair of gill openings; and more broadly rounded outer disc margins.



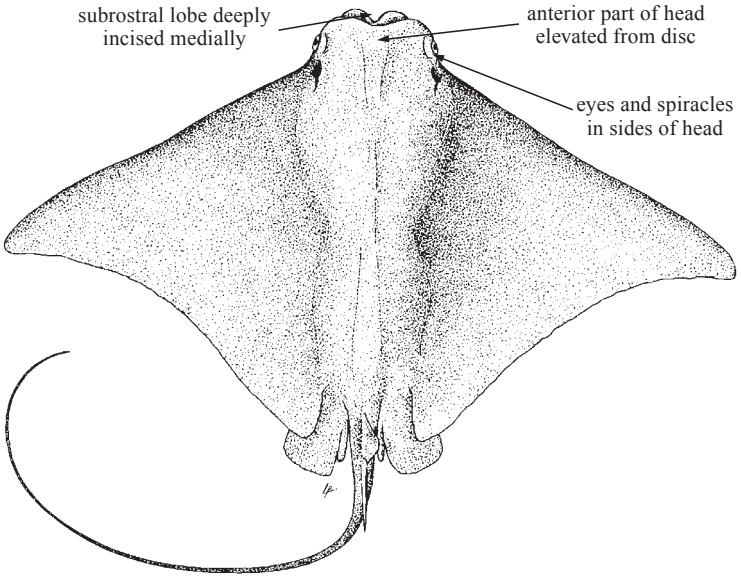


RHINOPTERIDAE

Cownose rays

by J.D. McEachran, Texas A & M University, Texas, USA
and M.R. de Carvalho, American Museum of Natural History, New York, USA

Diagnostic characters: Batoids of moderate to large size, disc width up to 2 m; disc rhomboid or lozenge-shaped, distinctly broader than long. **Anterior part of head distinctly elevated from disc; anterior section of pectoral fin separated from remainder of fin and forming fleshy subrostral lobe, lobe extends slightly in front of head and is deeply incised medially. Eyes and spiracles on sides of head**. Mouth nearly transverse; fleshy papillae absent on floor of mouth; **teeth consist of flattened plates arranged like pavement stones in 6 to 9 series, forming dental plate in each jaw; those of medial column largest**. Anterior lobe of nostrils posteriorly expanded into broad nasal curtain, with posterior margin fringed. Pectoral fins falciform, originating on dorsal side of head posterior to orbits. One small dorsal fin located between medial margins of pelvic fins; caudal fin absent; tail distinct from trunk, very slender, and circular in cross-section; longer than disc width; armed with 1 (rarely more) long, serrated, poisonous spine(s), located immediately posterior to dorsal fin. Skin entirely smooth on dorsal and ventral sides, or roughened with denticles on dorsal surface and on midline of body. **Colour:** dorsal surface greenish brown, brown, bronze, or grey; ventral surface whitish, border of disc often dark like dorsal surface; tail dark.



Habitat, biology, and fisheries: Cownose rays inhabit tropical to temperate continental and insular shelves worldwide. They actively swim by rapidly flapping their pectoral fins like birds in flight, and are capable of migrating long distances. Occasionally they are observed at the surface and leaping out of the water but generally swim near the bottom in small groups. Food consists of benthic crustaceans and hard-shelled molluscs that are dislodged from the bottom with their pectoral fins and subrostral lobes. All species are viviparous without placentae and neonates resemble their parents. Two species occur in the area. Cownose rays are not directly targeted by fisheries but they are frequently caught in tropical waters and are processed fresh or salted for human consumption.

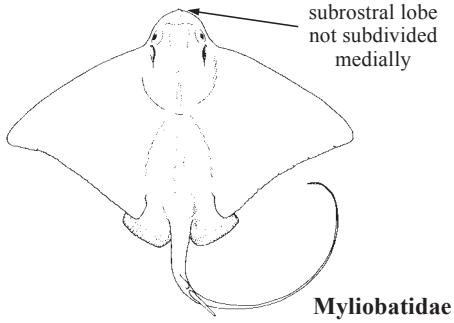
Similar families occurring in the area

Myliobatidae: subrostral lobe not prominent and not subdivided medially along anterior margin; fleshy papillae on floor of mouth.

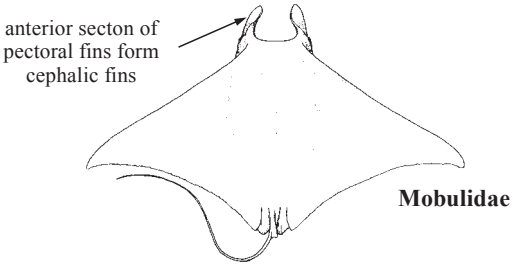
Mobulidae: anterior section of pectoral fins form cephalic fins; teeth very small, numerous and arranged in bands along one or both jaws.

Dasyatidae, Gymnuridae, Urotrygonidae: eyes and spiracles on top of head; anterior part of head not elevated and not distinct from remainder of disc; no subdivisions of pectoral fins forming subrostral lobes.

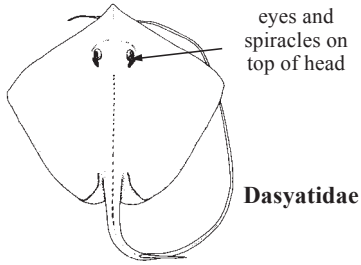
Other rays: tail stout to moderately slender and not whip-like; no serrated spine(s) on tail; eyes and spiracles on top of head and anterior part of head not elevated above remainder of disc.



Myliobatidae



Mobulidae

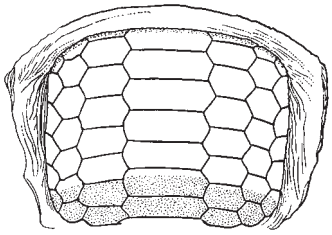


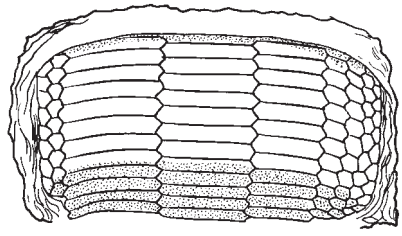
Dasyatidae

Key to the species of Rhinopteridae occurring in the area

1a. Teeth usually in 7 series in each jaw (occasionally 6 or 8) . . . . . ***Rhinoptera bonasus***

1b. Teeth usually in 9 series in each jaw (occasionally 8 or 10) . . . . . ***Rhinoptera brasiliensis***


a) *Rhinoptera bonasus*


b) *Rhinoptera brasiliensis*

upper teeth

List of species occurring in the area

The symbol ◆ is given when species accounts are included.

◆ *Rhinoptera bonasus* (Mitchill, 1815).

◆ *Rhinoptera brasiliensis* Müller, 1836.

References

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Smith, J.W. and J.V. Marriner. 1986. Observations on the reproductive biology of the cownose ray, *Rhinoptera bonasus*, in Chesapeake Bay. *U.S. Nat. Mar. Fish. Serv. Fish. Bull.,* 84:871-877.

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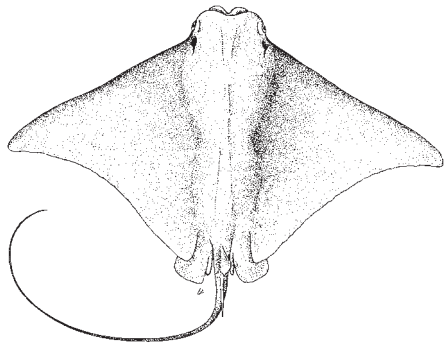
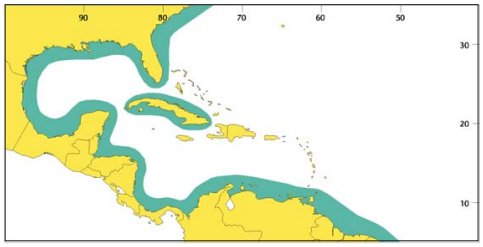
Rhinoptera bonasus (Mitchill, 1815) MRB

En - Cownose ray; **Fr** - Mourine américaine; **Sp** - Mancha.

Maximum size 91 cm disc width; females mature at 78 cm disc width; neonates about 37 cm disc width at birth. Benthic to epipelagic along the continental and insular shelves. Recorded from southern New England to northern Argentina, including the Gulf of Mexico, and Cuba. Litters from 2 to 6 young. Feeds primarily on hard-shelled molluscs and crustaceans. Dorsal surface uniform brown; ventral surface white to yellowish. Tooth plates with relatively long teeth compared to *Rhinoptera brasiliensis*.

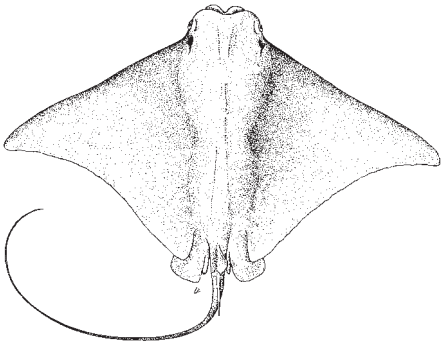


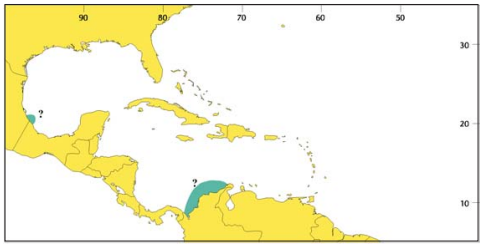


Rhinoptera brasiliensis Müller, 1836 MRR

En - Ticon cownose ray, **Fr** - Mourine ticon; **Sp** - Gavilán ticón.

Maximum size 91 cm disc width; neonates 44 to 49 cm disc width at birth. Feeds on hard-shelled molluscs and crustaceans. Benthic to epipelagic along continental and insular shelves. Recorded from North Carolina, southwestern Gulf of Mexico, Caribbean coast of Colombia, and southwestern Atlantic off Brazil. Dorsal surface uniform brown and ventral surface white below, with darker margins of disc ventrally. Distinguished from *Rhinoptera bonasus* by having relatively short teeth.



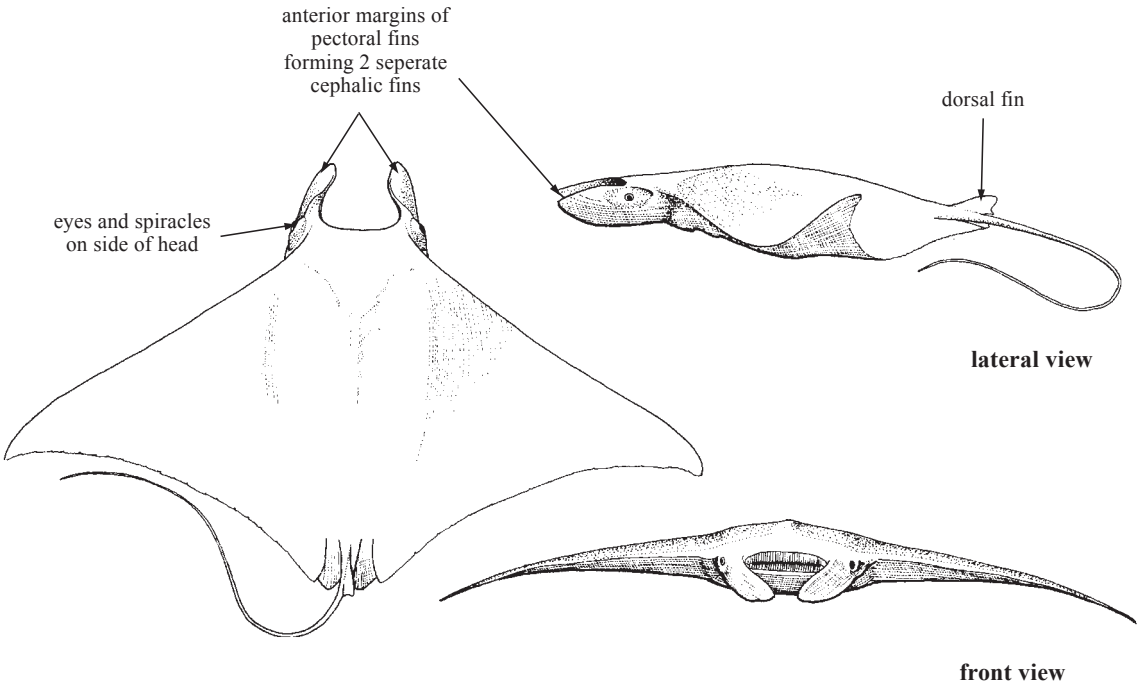


MOBULIDAE

Devil rays or mantas

by J.D. McEachran, Texas A & M University, USA and
M.R. de Carvalho, American Museum of Natural History, New York, USA

Diagnostic characters: Batoids of very large size, disc width of over 7 m in some species (*Manta* spp.). Body strongly depressed, with head, trunk, and broadly expanded pectoral fins forming a broad rhomboid disc. Disc much broader than long. Tail distinctly demarcated from disc. **Anterior margins of pectoral fins forming 2 separate cephalic fins that are separated from remainder of fins, project over front of head, and are orientated vertically. Head broad and slightly elevated but distinct from trunk. Eyes and spiracles on sides of head. Mouth subterminal to terminal and straight. Teeth are minute** and arranged in many series in 1 or both jaws. Anterior lobe of nostril greatly expanded to form well-developed nasal curtain that is complete across broad symphysis, and either entire or finely fringed along posterior margin; no papillae in mouth. No caudal fin, but **small dorsal fin on base of tail**; long serrated spine (or spines) present on tail in some species, lacking in others. Pelvic fins moderately narrow and extend little beyond posterior margin of pectoral fins. Skin naked or more or less rough with prickles or small tubercles. **Colour:** upper surface of body and outer surfaces of cephalic fins varying from grey to reddish or olivaceous brown to black; lower surface of body and inner surfaces of cephalic fins yellowish or greyish white, often with dusky patches.



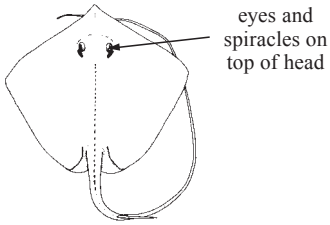
Habitat, biology, and fisheries: Devil rays occur in tropical and warm-temperate waters of all oceans, over continental and insular shelves. They are pelagic and highly migratory, swimming in surface waters by flapping their wing-like pectoral fins. All species are viviparous without placentae and feed on larger zooplanktonic organisms and small schooling fish. They have specialized branchial plates or lamellae that trap planktonic organisms when water leaves pharynx over the gill surfaces. None of the 3 species of devil rays occurring in Area 31 is sufficiently abundant to be considered of significant commercial interest. However, some are caught frequently (especially with harpoons) and are highly esteemed because of their large size and the good quality of their flesh, marketed mainly salted; other parts are used for the production of oil. Worldwide, some species are important for ecotourism.

Similar families occurring in the area

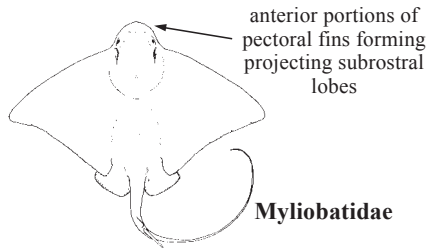
Dasyatidae, Gymnuridae, and Urotrygonidae: eyes and spiracles on top of head; anterior margin of pectoral fins continuous along sides of head, which is not marked off from body.

Myliobatidae and Rhinopteridae: anterior portions of pectoral fins forming projecting subrostral lobes, either single (Myliobatidae) or medially incised (Rhinopteridae); teeth plate-like and in 1 to 9 series.

Other batoid families: lack serrated tail spine; tail is stout to moderately slender. No other family has the typical cephalic fins of the devil rays.



Dasyatidae

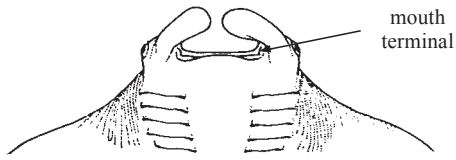


Dasyatidae

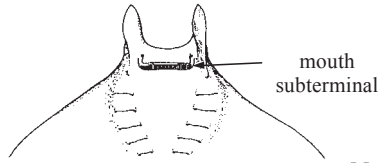
Key to the species of Mobulidae occurring in the area

1a. Mouth terminal, extending across front of head; teeth on lower jaw only; head width greater than 17% of disc width (Fig. 1a) . . . . . ***Manta birostris***

1b. Mouth subterminal; teeth present in both jaws; head width less than 17% of disc width (Fig. 1b) . . . . . → ***2***



a) ***Manta birostris***



b) ***Mobula***

Fig. 1 ventral view of cephalic region

2a. Branchial filter plates fused at tips; tooth bands about 70% of mouth width; cephalic fins about 60% as wide as long . . . . . ***Mobula tarapacana***

2b. Branchial filter plates separate at tips; tooth bands less than or equal to 50% of mouth width; cephalic fins about 50% as wide as long . . . . . ***Mobula hypostoma***

List of species occurring in the area

The symbol ◆ is given when species accounts are included.

◆ *Manta birostris* (Walbaum, 1792).

◆ *Mobula hypostoma* (Bancroft, 1831).

◆ *Mobula tarapacana* (Philippi, 1893).

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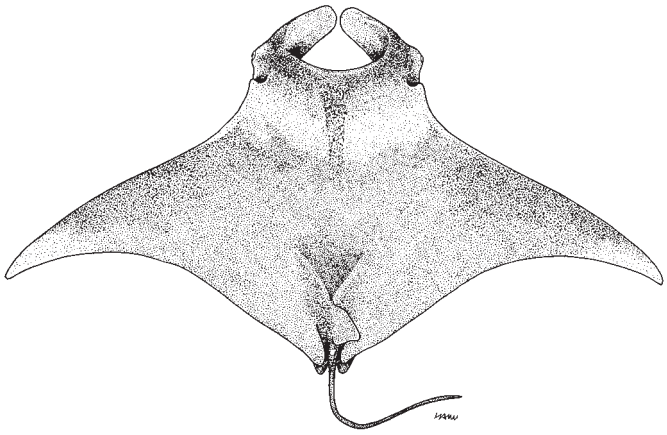
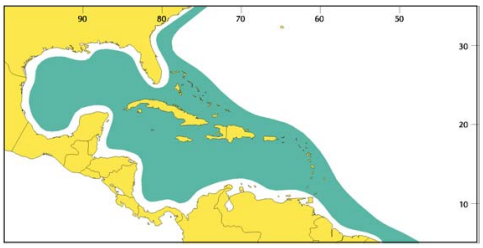
Manta birostris (Walbaum, 1792) RMB

En - Giant manta (AFS: Manta); **Fr** - Mante géante; **Sp** - Manta voladora (AFS: Mantaraya).

Maximum size 700 cm disc width; neonates 120 cm at birth. Pelagic in coastal and oceanic waters. Recorded from southern New England and Georges Bank, North Carolina, and Bermuda to central Brazil, including Gulf of Mexico, Bahamas, and the Greater and Lesser Antilles. Thought to be worldwide but records from other oceans may represent separate species. Dorsal coloration varies from reddish brown to black, with small spots and blotches occasionally present; ventrally white, with grey blotches sometimes present. Serrated spines may be present. Food consists of zooplankton, small pelagic crustaceans, and ray-finned fishes. Rarely caught; meat from pectoral fins is salted and dried (Mexico).

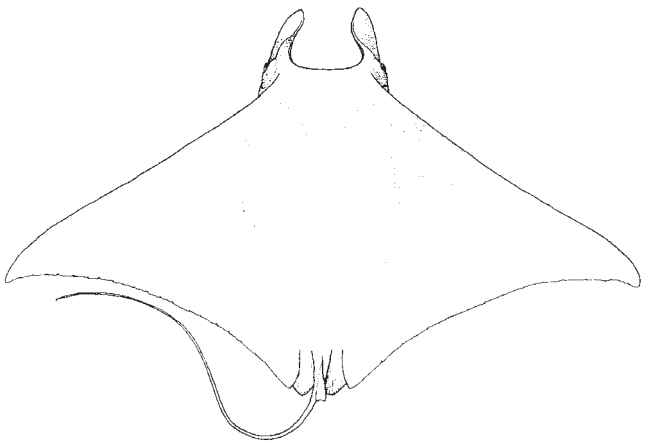


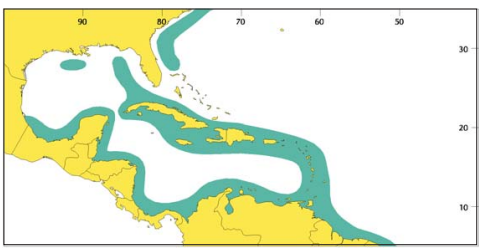


Mobula hypostoma (Bancroft, 1831) RMH

En - Devil ray; **Fr** - Diable géant; **Sp** - Manta negra.

Maximum size 120 cm disc width, males mature at 114 cm disc width, females mature at 111 cm disc width, neonates 55 cm at birth. Pelagic in coastal and occasionally oceanic waters. Recorded from North Carolina (Cape Lookout) to northern Argentina, including Gulf of Mexico, and Greater and Lesser Antilles. Records from eastern Atlantic refer to *Mobula rochebrunei*. Dorsal coloration blackish brown to bluish black; upper margins and inner terminal portion of cephalic fins also blackish brown; ventral surface yellowish or greyish white; outer margins of cephalic fins yellowish or grey. Caudal serrated spine absent. Small denticles present on disc and base of tail. Food consists of zooplankton, small pelagic crustaceans, and ray-finned fishes.





Mobula tarapacana (Philippi, 1893) RMT

En - Chilean devil ray (AFS: Sicklefin devil ray); **Fr** - Mante chilienne; **Sp** - Manta cornuda.

Maximum size is 305 cm disc width. Pelagic in coastal and occasionally oceanic waters. Recorded from north-western Gulf of Mexico and Venezuela. Widespread in tropical waters (described originally from off Chile). Dorsal coloration brown to olivaceous green; ventrally white on anterior half and grey posteriorly (both portions clearly distinct). No serrated spine on tail. Densely covered with minute denticles. Also distinguished from *Mobula hypostoma* by having a relatively longer “neck” region. Food consists of zooplankton, small pelagic crustaceans, and ray-fined fishes.