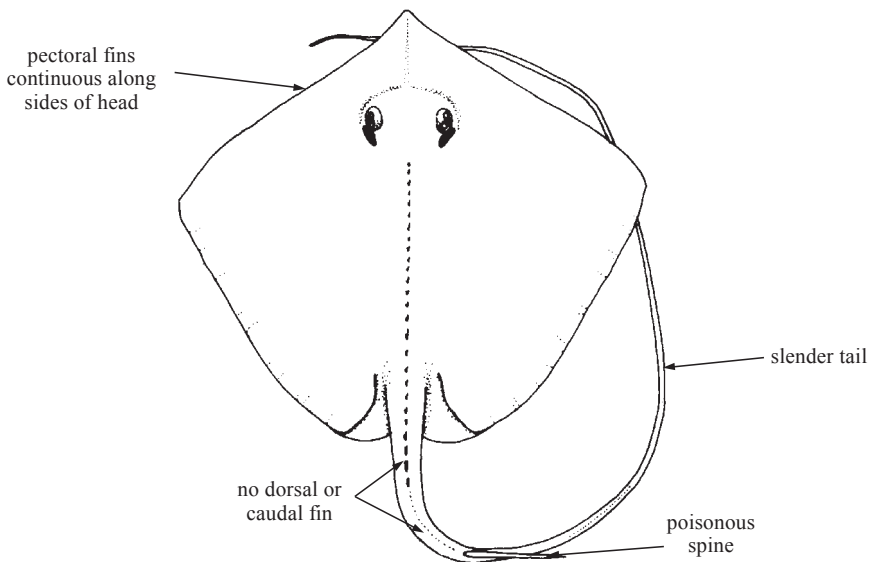


DASYATIDAE

Stingrays

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

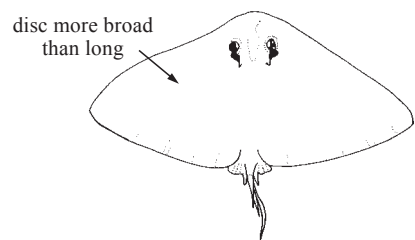
Diagnostic characters: Batoids of moderate to very large size, disc width from 30 cm to more than 2 m. Body strongly depressed, with head, trunk, and broadly expanded pectoral fins forming rhomboid or oval-shaped disc. **Disc not more than 1.3 times as broad as long.** Tail distinctly demarcated from disc. **Pectoral fins continuous along sides of head, not forming subrostral lobes or cephalic fins.** Snout obtuse, rounded, or more or less pointed. Eyes and spiracles on top of head. **Floor of mouth with fleshy papillae.** Small teeth in many series forming bands along jaws. Nasal curtains well developed and continuous across narrow isthmus in front of mouth and deeply fringed. **No dorsal fins or caudal fin. Tail very slender, tapering, much longer than disc, and with 1 or more saw-edged, long, poisonous spines on medial half of length.** Some species with longitudinal tail folds (fin-folds) on upper and/or lower surface. Skin on dorsal side naked or armed with tubercles or prickles. **Colour:** dorsal surface usually grey to dark brown, sometimes with darker or paler markings; ventral surface generally whitish.



Habitat, biology, and fisheries: Whiptail stingrays occur primarily in tropical to warm-temperate waters worldwide; they are usually found in shallow coastal waters, lagoons, estuaries, and occasionally fresh waters, but a few species may occur in deeper waters (beyond 100 m). In tropical regions some species are restricted to fresh waters. All but 1 species are benthic and often remain, for extended periods of time, partially buried in soft bottom substrates. The exception (*Pteroplatytrygon violacea*) is epipelagic in open oceans and along continental and insular shelf margins. All species are viviparous without placentas, young remain in oviducts of female until they are fully formed. Eight species in 3 genera occur in the area. Some stingrays are reportedly very abundant in certain localities and are regularly seen in local markets (e.g. in Venezuela). The flesh (thicker part of disc) is well esteemed as food; other parts are used in preparation of gelatin and liver oil. Some species are important for ecotourism (*Dasyatis say* and *Dasyatis americana* of Grand Cayman Island).

Similar families occurring in the area

Gymnuridae: disc more than 1.5 times as broad as long; no papillae on floor of mouth; nasal curtains smooth-edged.

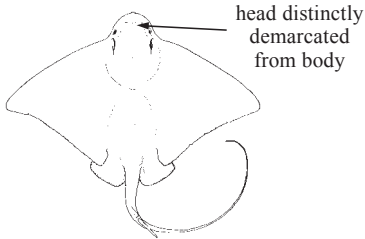


Gymnuridae

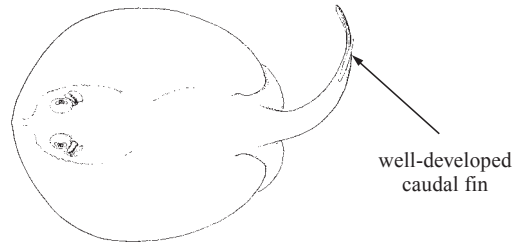
Myliobatidae, Rhinopteridae, Mobulidae: head distinctly demarcated from body, anterior portions of pectorals forming separate lobes or fins; eyes and spiracles on sides of head.

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

Other families of batoids: lack characteristic tail spine(s); tail stout to moderately slender; 1 or 2 dorsal fins and rudimentary caudal fin.



Myliobatidae



Urotrygonidae

Key to the species of Dasyatidae occurring in area

- 1a. Anterior margin of disc evenly convex to nearly straight (Fig. 1a) → 2
- 1b. Anterior margin of disc subangular, with tip of snout forming apex of angle (Fig. 1b) → 3

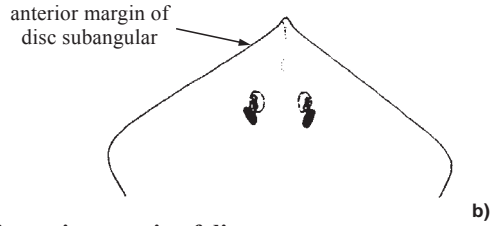
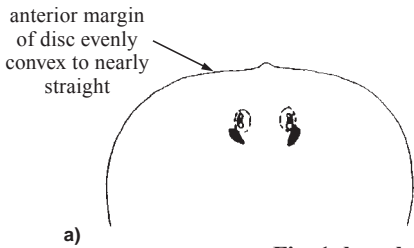


Fig. 1 dorsal view of anterior margin of disc

- 2a. Dorsal surface uniformly covered with numerous small tubercles, and with enlarged tubercles over scapular region; ventral surface of disc creamy white to yellowish, often with variously coloured blotches and dusky margin; ventral surface of tail with very low and indistinct keel *Himantura schmardae*
- 2b. Dorsal surface of disc mostly naked, no enlarged tubercles over scapular region; ventral surface of disc uniformly brown to black; ventral surface of tail with well-developed fin-fold or flap, usually taller than tail *Pteroplatytrygon violacea*
- 3a. Pelvic fins greatly expanded laterally, more than twice as wide as long, and with narrowly pointed outer corners; preorbital length more than 4 times distance between eyes (Fig. 2a) *Dasyatis geijskesi*
- 3b. Pelvic fins not greatly expanded laterally, only about as wide as long, and with broadly rounded outer corners; preorbital length between 1 and 2 times distance between eyes (Fig. 2b) → 4

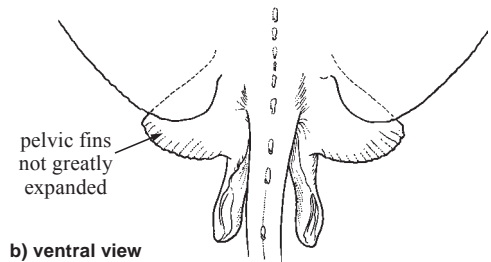
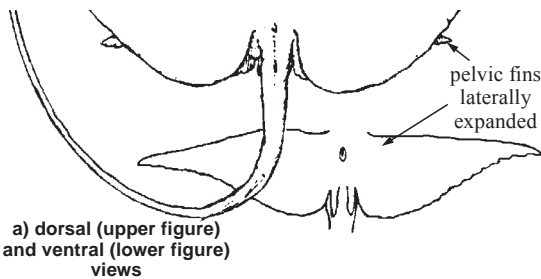


Fig. 2 pelvic fins

- 4a. Outer corners of disc broadly and evenly rounded (Fig. 3a) → 5
- 4b. Outer corners of disc narrowly rounded or subangular (Fig. 3b). → 6



Fig. 3 dorsal view of anterior portion of disc

- 5a. Preorbital length greater than distance between spiracles; pelvic fins projecting beyond posterior margin of disc by about 1/3 of their length (Fig. 4a). *Dasyatis sabina*
- 5b. Preorbital length shorter than distance between spiracles; pelvic fins usually not projecting beyond posterior margin of disc, or, if projecting, never by as much as 1/3 their length (Fig. 4b) *Dasyatis say*

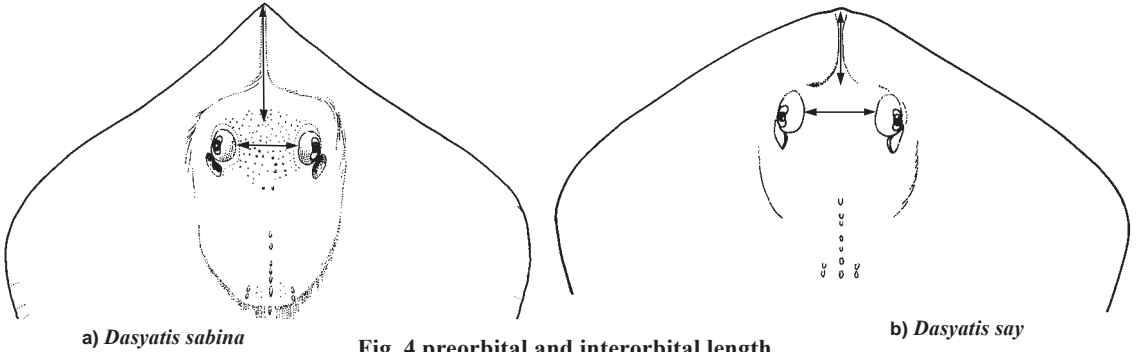


Fig. 4 preorbital and interorbital length

- 6a. Snout projecting beyond remainder of anterior margin of disc, forming a small triangular protuberance; dorsal disc region with dense and broad array of blunt tubercles from interorbital area to base of tail region on larger juveniles and adults (Fig. 5) *Dasyatis guttata*
- 6b. Snout not projecting beyond remainder of anterior margin of disc, not forming a small triangular protuberance; dorsal disc region without dense and broad array of blunt tubercles from interorbital area to base of tail region on larger juveniles and adults (Fig. 6) → 7

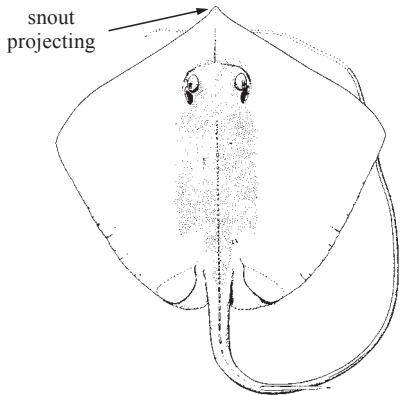


Fig. 5 *Dasyatis guttata* (dorsal view)

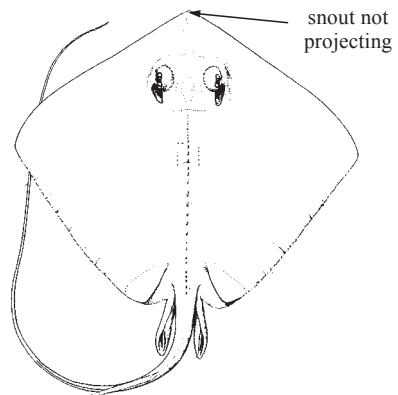


Fig. 6 dorsal view

- 7a. Lateral sides of tail without conspicuous tubercles or thorns; longitudinal fin-fold along ventral side of tail about as deep as height of tail *Dasyatis americana*
- 7b. Lateral sides of tail with conspicuous tubercles and thorns in large juveniles and adults; longitudinal fin-fold along ventral side of tail about 1/2 as deep as height of tail . . . *Dasyatis centroura*

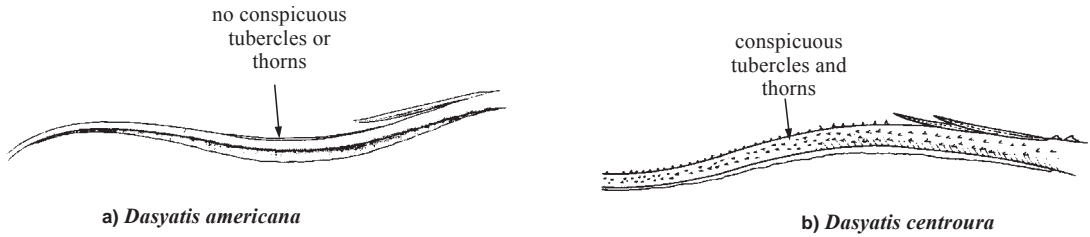


Fig. 7 lateral view of tail

List of species occurring in the area

The symbol ♠ is given when species accounts are include.

- ♠ *Dasyatis americana* Hildebrand and Schroeder, 1928.
- ♠ *Dasyatis centroura* (Mitchill, 1815).
- ♠ *Dasyatis geijskesi* Boeseman, 1948.
- ♠ *Dasyatis guttata* (Bloch and Schneider, 1801).
- ♠ *Dasyatis sabina* (Lesueur, 1824).
- ♠ *Dasyatis say* (Lesueur, 1817).
- ♠ *Himantura schmardae* (Werner, 1904).
- ♠ *Pteroplatytrygon violacea* (Bonaparte, 1832).

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):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: Batoideomorpha)*. Universidad Nacional Autónoma de México, 75 p.
- McEachran, J.D. and J.D. Fechhelm. 1998. *Fishes of the Gulf of Mexico, Vol. 1. Myxiniiformes to Gasterosteiformes*. Austin, University of Texas Press, 1112 p.

Dasyatis americana Hildebrand and Schroeder, 1928

RDA

Frequent synonyms / misidentifications: None / None.

FAO names: En - Southern stingray; Fr - Pastenague américaine; Sp - Raya-látigo americana.

Diagnostic characters: Disc rhombic, about 1.2 times as broad as long; **snout barely projecting**; anterior angle of snout about 135°; **outer and posterior corners of disc abruptly rounded or nearly acute-angled**. Mouth arched; teeth arranged in 39 to 56 rows in the upper jaw. Teeth of females and juveniles with rounded cusps, those of mature males with sharp pointed cusps. Centre of floor of mouth with 3 stout papillae arranged in transverse series, sometimes single additional papilla on one or both sides. Tail slender and much longer than disc width; usually 1 (sometimes several or none) long, serrated, and poisonous spine(s) on base of tail; no dorsal fins or caudal fin; **upper surface of tail with a low longitudinal ridge posterior to spine, lower surface with a longitudinal fin-fold originating at level of spine, depth of fold equal to height of tail above fold**.

Pelvic fins with a straight anterior margin and a rounded outer corner. **A median row of irregularly (juveniles and**

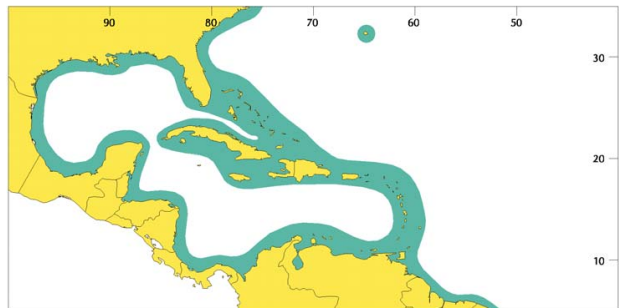
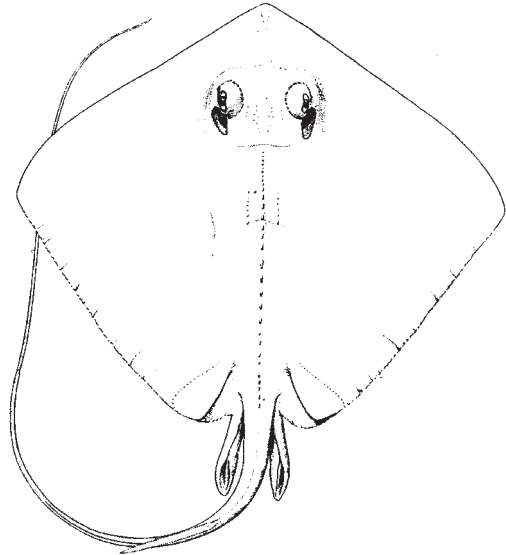
half-grown individuals) or regularly (adults) spaced tubercles along midline from nuchal region to base of tail; a short longitudinal row of scapular tubercles on each side of midline; **denticles in band along midline from between orbits to base of tail**. **Colour:** dorsal surface light brown, grey, or olive, varying with substrate, with pale spot on midline of snout in front of eyes. Ventral surface white with grey or brown margins. Longitudinal ridge and fin-fold of tail dark brown.

Size: Maximum: 150 cm disc width; males mature at 51 cm disc width, females mature at 75 to 80 cm disc width, and young are 17 to 18 cm at birth.

Habitat, biology, and fisheries: Inhabits shallow waters, burying in sandy bottoms (more rarely, muddy bottoms). This species is an active swimmer, migrating in the summer months along the surface to the higher latitudes. It is found in water ranging from 15.4 to 30.3°C, generally at high salinities (28.5 to 36.2‰) but occasionally occurs in estuaries and fresh water. Feeds on bottom-dwelling invertebrates, mainly bivalves and worms; also on shrimps, crabs, and small ray-finned fishes. Litters range from 3 to 5. Caught mainly with trammel nets and bottom longlines; also with spears. Mainly east coast of the USA and Venezuela; to a lesser extent north coast of Colombia. Marketed salted; the flesh of the disc is well esteemed; remainder of body used in the preparation of gelatin and good quality oil. Very destructive to cockle and oyster farms; also dangerous to bathers and fishers because of the wounds it can inflict with its poisonous spine.

Distribution: Widely distributed from New Jersey to Florida, throughout the Gulf of Mexico, Bahamas, and the Greater and Lesser Antilles, and bordering the northern coast of South America to southeastern Brazil.

Note: Records of *Dasyatis pastinaca* from Uruguay are probably of this species or *Dasyatis sayi*.



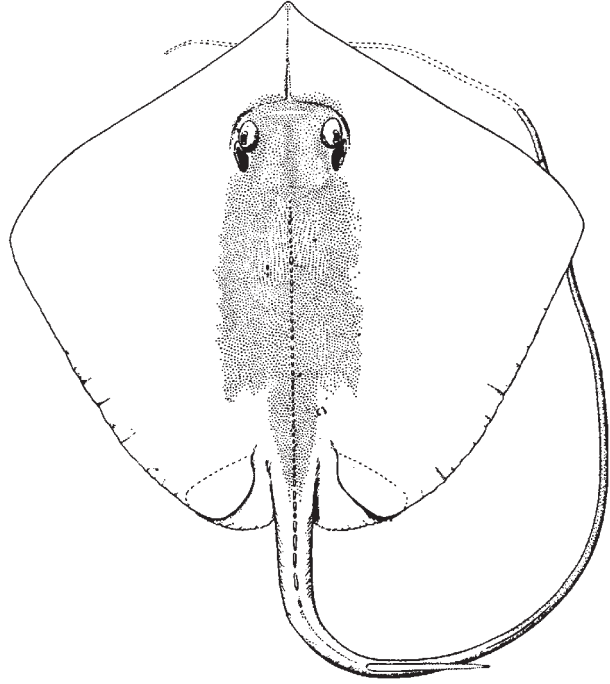
Dasyatis guttata (Bloch and Schneider, 1801)

RDU

Frequent synonyms / misidentifications: None / None.

FAO names: **En** - Longnose stingray; **Fr** - Pastenague longnez; **Sp** - Rayá-latigo hocicona.

Diagnostic characters: Disc rhombic, about 1.1 times as broad as long; **snout** is relatively long, 23 to 26% of disc width, and **moderately projecting**, anterior angle of snout 105 to 115°; outer corners of disc abruptly rounded, forming a 90° angle; posterior corner of disc more broadly rounded. Mouth arched; teeth arranged in 34 to 46 rows in upper jaw. Teeth of females and juveniles have rounded cusps, and those of mature males have sharp pointed cusps. Centre of floor of mouth with 3 stout papillae in a transverse series. Tail slender and much longer than disc width; usually 1 (sometimes several or none) long, serrated, and poisonous spine(s) at base of tail; no dorsal fins or caudal fin; **upper surface of tail with a low longitudinal ridge posterior to tip of serrated spine, lower surface with a well-developed longitudinal fin-fold originating at level of spine, depth of fin-fold equal to 1/3 to 4/5 height of tail above fold.**

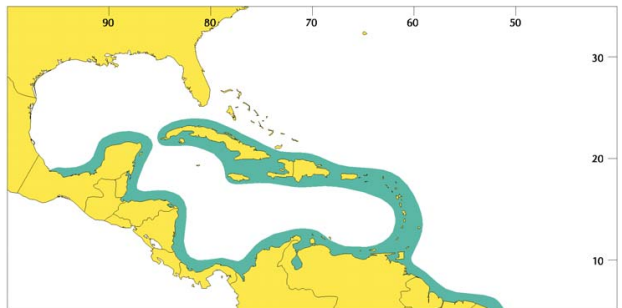


Small flattened thorns (tubercles) in a band along midline from level of orbits to base of tail in larger juveniles and adults; a continuous, broad series of blunt tubercles and thorns along midline from nuchal region to insertion of serrated spine. **Colour:** dorsal surface grey, brown, or olive, either uniform or with dark spots; ventral surface white to yellowish white; keel and ridge of tail black.

Size: Maximum size is 180 to 200 cm disc width.

Habitat, biology, and fisheries: Inhabits shallow waters. Little is known of the biology of this species. Caught mainly with bottom longlines off Venezuela and the Guianas. Marketed mostly salted; the flesh of the disc is well esteemed; also used in preparation of gelatin and good quality oil. May be dangerous to bathers and fishers because of the wounds it can inflict with its poisonous spine.

Distribution: Widespread primarily in the southern Gulf of Mexico, Antilles, off northern South America, and in the southwestern Atlantic to southeastern Brazil.



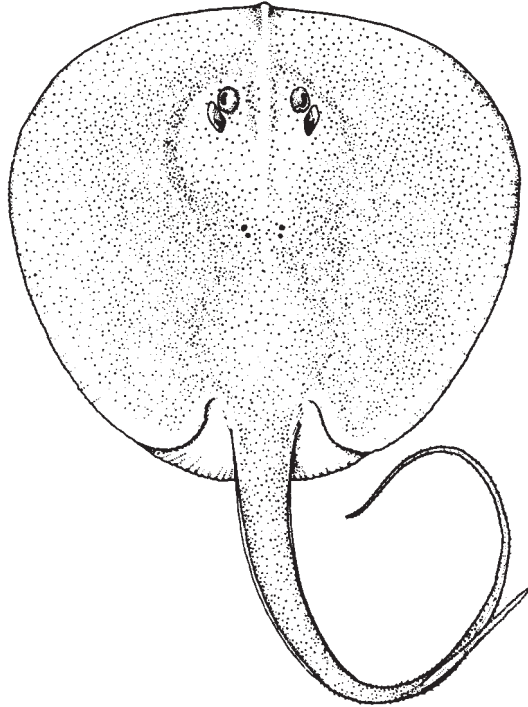
Himantura schmardae (Werner, 1904)

DHH

Frequent synonyms / misidentifications: None / None.

FAO names: **En** - Chupare stingray (AFS: Caribbean whiptail stingray); **Fr** - Pastenague chupare; **Sp** - Chupare.

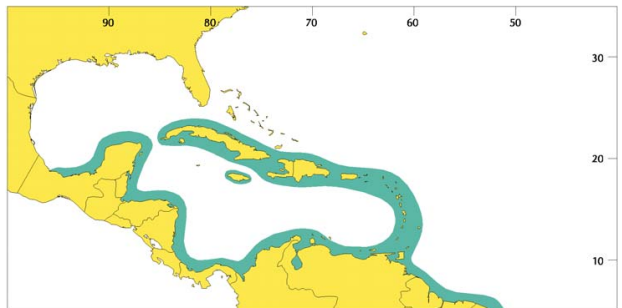
Diagnostic characters: Disc ovate, about 1.0 to 1.1 times as broad as long; tip of snout barely projecting as a broad-based papilla; **anterolateral margin of disc broadly arched to almost straight across; outer and posterior corners of disc broadly rounded.** Mouth moderately arched; teeth arranged in 28 to 36 rows in upper jaw. Cusps of teeth flat or rounded, with transverse depression and scalloped margin. Centre of floor of mouth with 5 papillae in transverse series. Tail slender and much longer than disc width; usually 1 very long, serrated, and poisonous spine located at about midlength of tail; no dorsal fins or caudal fin; **no longitudinal ridge on dorsal surface of tail; sides of tail with a low longitudinal ridge running along anterior 1/4 of tail; lower surface of tail with a low ridge originating at level of origin of spine.** Pelvic fins with straight anterior margins and convex posterior margins that do not extend beyond outline of disc. **Upper surface of disc and tail anterior to serrated spine densely covered with small tubercles, with enlarged tubercles over scapular region on each side of disc.** **Colour:** dorsal surface dark brown, sooty olive, or sepia; ventral surface yellowish to creamy white.



Size: Maximum size is about 120 cm disc width.

Habitat, biology, and fisheries: Inhabits shallow waters; rather abundant in mangrove-lined lagoons in Venezuela. Caught mainly with trammel nets and with bottom longlines. Off Venezuela. Marketed salted; also used in the preparation of gelatins and oil. Dangerous to bathers and fishers because of the wounds it can inflict with its poisonous spine.

Distribution: Recorded from the southern Gulf of Mexico, Caribbean coasts of Mexico and Central America, Greater and Lesser Antilles, and northern South America to French Guiana.

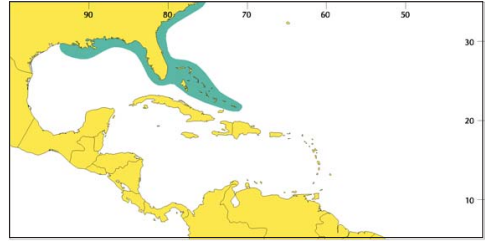
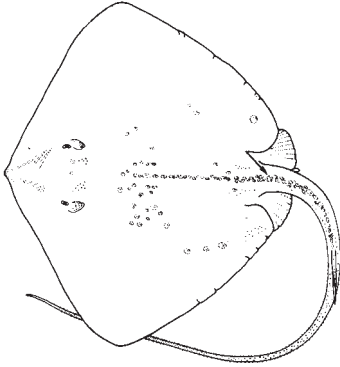


Dasyatis centroura (Mitchill, 1815)

RDC

En - Roughtail stingray; **Fr** - Pastenague des îles; **Sp** - Raya-látigo isleña.

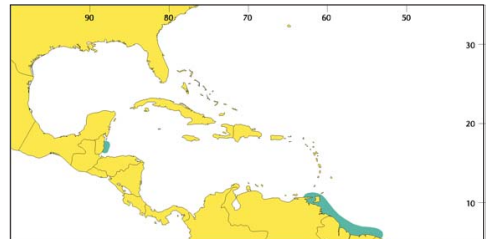
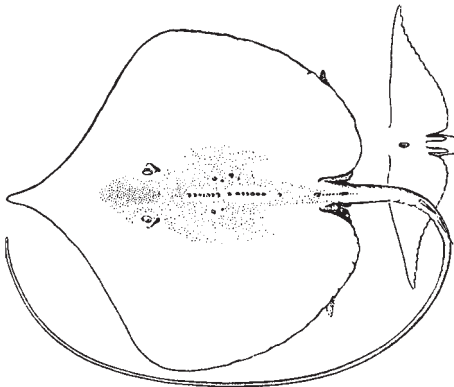
Maximum size 210 cm disc width (making it one of the largest known stingrays); males mature at 130 to 150 cm disc width (claspers of an 84 cm disc width male barely extending beyond tip of pelvic fins); females mature at 140 to 160 cm disc width, and neonates at 34 to 37 cm disc width at birth. Benthic along the inner continental shelf to 91 m, rarely to 274 m. Recorded from Georges Bank and Cape Cod to southern Florida, northern and northeastern Gulf of Mexico, Bahamas, and coast of South America from southeastern Brazil to Argentina (also eastern Atlantic and Mediterranean Sea). Dorsal surface uniform dark brown to deep olive; ventral surface creamy white to yellowish. Dorsal surface with scattered enlarged tubercles and bucklers at about 30 cm disc width. Food consists of polychaetes, cephalopods, crustaceans, and ray-finned fishes. Litters range from 2 to 6 young.

***Dasyatis geijskesi*** Boseman, 1948

RDJ

En - Sharpsnout stingray; **Fr** - Pastenague bécune; **Sp** - Raya-látigo picúa.

Maximum size 150 cm disc width; male 36 cm disc width is still immature. Benthic in coastal waters in up to 80 m. Recorded from Venezuela to northern Brazil (Ilha de Maracá, Amapá state). Possibly more widely distributed in the western Caribbean Sea (unconfirmed record from Belize). Pelvic fins greatly laterally expanded and short, with acute tips. Dorsal surface plain brown; ventral surface whitish, with grey disc margins.

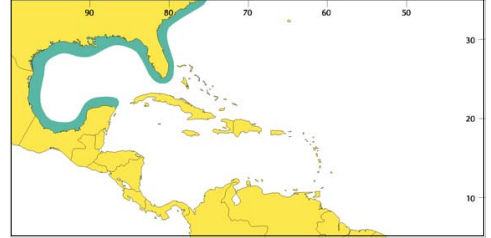
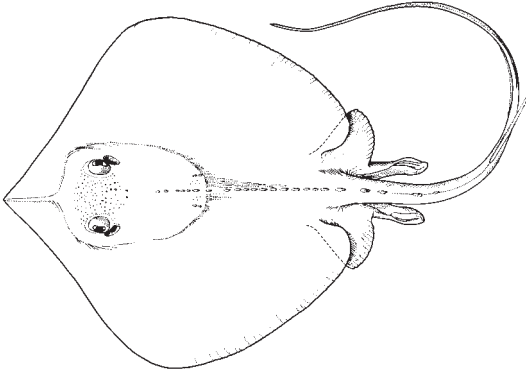


Dasyatis sabina (Lesueur, 1824)

JDS

En - Atlantic stingray.

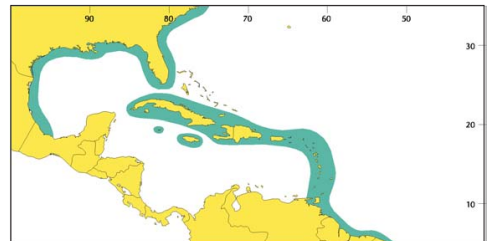
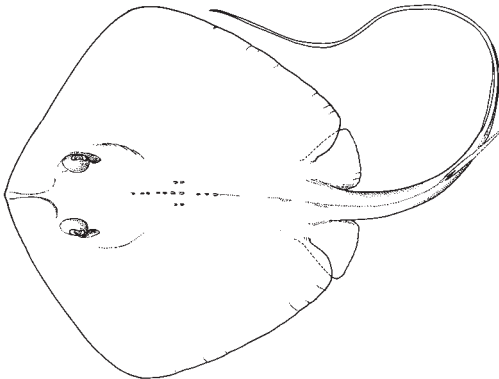
Maximum size 61 cm disc length (about equal to disc width); females mature at 16 to 18 cm disc width, and neonates 10 cm disc width at birth. Benthic in coastal waters from shoreline to about 20 m, also in estuaries and fresh water. Recorded from Chesapeake Bay to Florida Keys, throughout Gulf of Mexico. Records from northern South America and Brazil questionable. Food consists of polychaetes, crustaceans, and ray-finned fishes. Litters range from 1 to 3 young. Upper surface brown to yellowish brown, sometimes with darker stripe along midline; ventrally whitish occasionally with darker disc outline.

***Dasyatis say*** (Lesueur, 1817)

JDY

En - Bluntnose stingray.

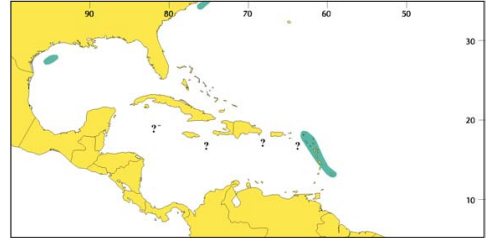
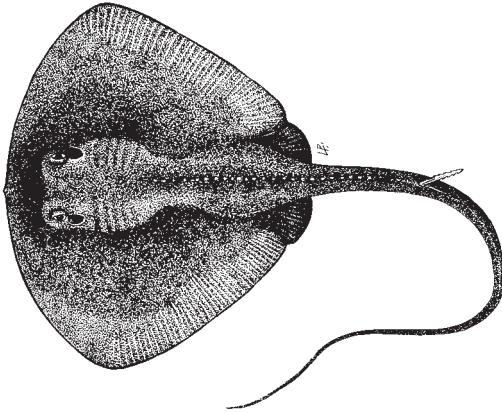
Maximum size 100 cm disc width; neonates 15 to 16 cm at birth. Benthic along the shoreline to 9 m; also occurs in estuaries. Recorded from New Jersey to Florida Keys, northern and western Gulf of Mexico, Greater and Lesser Antilles, and eastern Venezuela to northern Argentina. It has not been recorded from the southern Gulf of Mexico or the Caribbean coasts of Mexico and Central America. Records of *Dasyatis pastinaca* from Uruguay and Argentina probably refer to this species or *Dasyatis americana*. Food consists of polychaetes, bivalves, gastropods, and ray-finned fishes. Litters range from 2 to 4 young. Dorsal surface greyish brown, olivaceous brown to reddish, occasionally with bluish spots; ventral surface whitish. Both upper and lower fin-folds well developed, even in late term embryos.



Pteroplatytrygon violacea (Bonaparte, 1832)

FAO names: **En** - Blue stingray (AFS: Pelagic stingray); **Fr** - Pastenague violette, **Sp** - Raya-látigo violeta.

Maximum size 80 cm disc width (about 165 cm total length); males mature at 48 cm disc width, females mature at 40 to 50 cm disc width; neonates about 7 cm disc width at birth. Epipelagic along continental and insular shelves, and oceanic waters. Recorded in western Atlantic at the Grand Banks, Cape Hatteras, northern Gulf of Mexico off Texas, Lesser Antilles, and southwestern Atlantic (Santos, Brazil). Circumtropical in pelagic waters. Food consists of squids, coelenterates, medusae, crustaceans, and ray-finned fishes. Frequently caught in longlines. Dorsal surface purple, deep grey bluish to blackish purple; ventral surface lighter greyish purple to bluish. Easily identified by tall, flap-like fin-fold and blunt, rounded anterior disc margin.

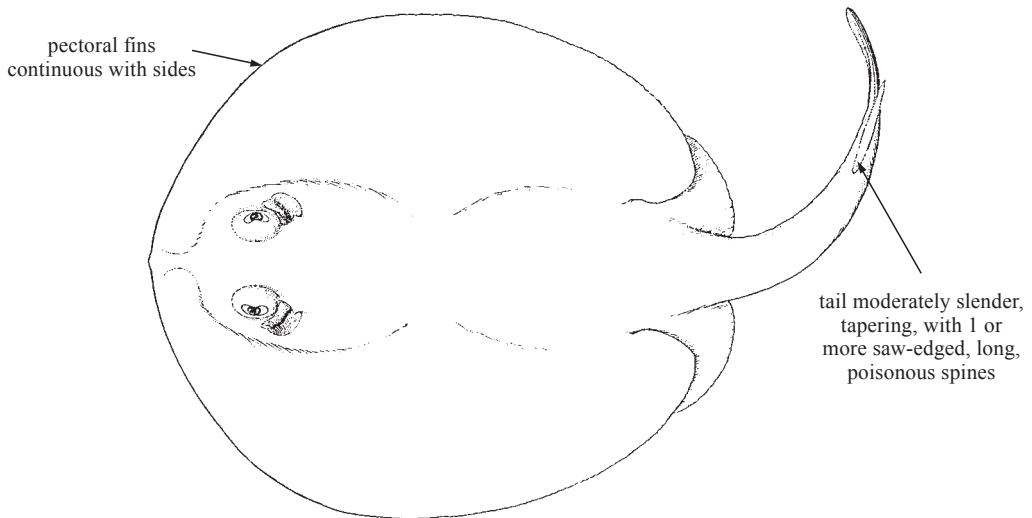


UROTRYGONIDAE

American round stingrays

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 small to moderate size, total length 16 cm to 80 cm at maturity. Body strongly depressed, with head, trunk, and broadly expanded pectoral fins forming oval-shaped to nearly round disc. **Disc not more than 1.3 times as broad as long.** Tail distinctly demarcated from disc. **Pectoral fins continuous along sides of head, not forming subrostral lobes or cephalic fins.** Snout obtuse, rounded, or more or less pointed. Eyes and spiracles on top of head. **Spiracles with small spiracular knob or tentacle resorbed shortly after birth.** Floor of mouth with fleshy papillae. Small teeth in many series forming bands along jaws. Nasal curtains well developed and continuous across narrow isthmus in front of mouth and generally fringed. **Tail moderately slender, tapering, about as long as disc length, with 1 or more saw-edged, long, poisonous spines on medial half of length,** without dorsal fin, and with **well-developed caudal fin** either continuous or discontinuous around tip of vertebral column. Skin on dorsal side naked or armed with thorns and denticles. **Colour:** dorsal surface usually grey to dark brown, sometimes with lighter or darker spots or reticulations; ventral surface generally whitish.

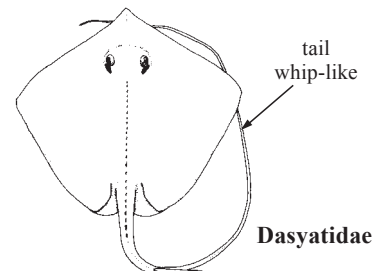


Habitat, biology, and fisheries: Round rays occur primarily in tropical to warm temperate waters in the western Atlantic and eastern Pacific; they are usually found in shallow coastal waters, lagoons, estuaries, and occasionally fresh waters. All species are benthic and often remain, for extended periods of time, partially buried in soft bottom substrates. All species are viviparous without placentas, young remain in oviducts of female until fully formed. Three species in 2 genera occur in the area; the greatest diversity of the family is in the eastern Pacific. Because of their small size they are of little commercial importance.

Remarks: Other authors include Urolophidae or Dasyatidae.

Similar families occurring in the area

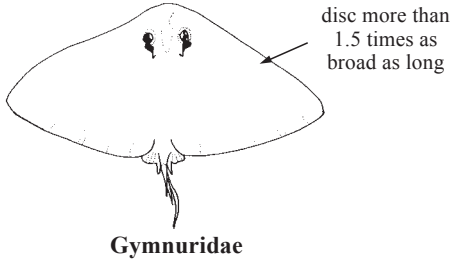
Dasyatidae: dorsal fin and caudal fin absent; tail whip-like and longer than disc length.



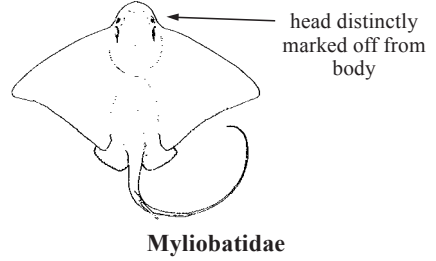
Gymnuridae: disc more than 1.5 times as broad as long; no papillae on floor of mouth; nasal curtains smooth-edged

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

Other families of batoids: lack characteristic tail spine(s); tail stout to moderately slender; 1 or 2 dorsal fins and rudimentary caudal fin.



Gymnuridae



Myliobatidae

Key to the species of Urotrygonidae occurring in the area

- 1a. Tail length less than 1/2 total length; dorsal lobe of caudal fin about 1/4 as high as long; dorsal and ventral lobes of caudal fin confluent (Fig. 1a) *Urobatis jamaicensis*
- 1b. Tail length greater than 1/2 total length; dorsal lobe of caudal fin less than 1/6 as high as long; dorsal and ventral lobes of caudal fin not confluent (Fig. 1b) → 2

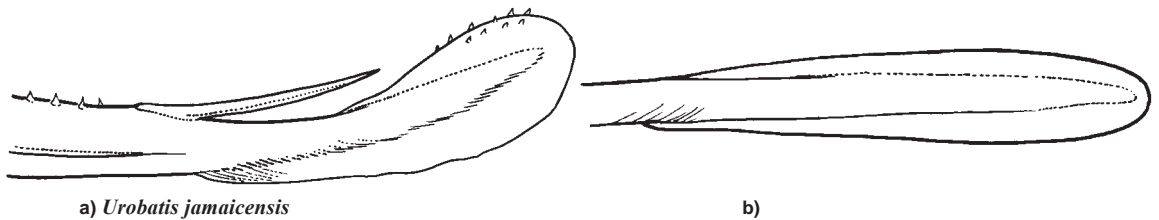


Fig. 1 caudal fin

- 2a. Preorbital snout length about 33% of disc width; dorsal surface of disc mostly naked *Urotrygon microphthalmum*
- 2b. Preorbital snout length about 25% of disc width; dorsal surface of disc covered with denticles; midline of disc and anterior section of tail with row of thorns *Urotrygon venezuelae*

List of species occurring in the area

The symbol ♠ is given when species accounts are included.

- ♠ *Urobatis jamaicensis* (Cuvier, 1816).
- ♠ *Urotrygon microphthalmum* Delsman, 1941.
- ♠ *Urotrygon venezuelae* Schultz, 1949.

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):588 p.

McEachran, J.D. and J.D. Fechhelm. 1998. *Fishes of the Gulf of Mexico, Vol. 1. Myxiniiformes to Gasterosteiformes*. Austin, Texas, University of Texas Press, 75 p.

Miyake, T. and J.D. McEachran. 1986. Taxonomy of the stingray genus *Urotrygon* (Myliobatiformes, Urolophidae): preliminary results based on external morphology. 291-302. In *Indo-Pacific fish biology: Proceedings of the Second International Conference on Indo-Pacific Fishes*, edited by T. Uyeno, R. Arai, T. Taniuchi, and K. Matsuura, Ichthyological Society of Japan, 1112 p.

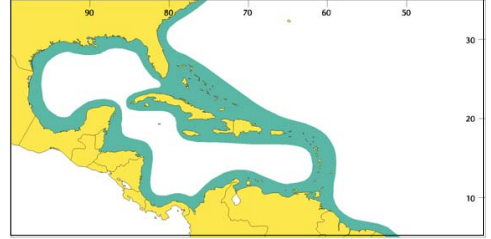
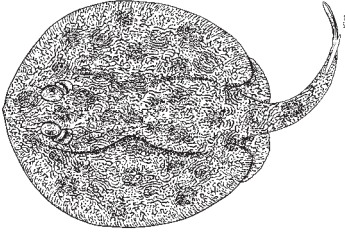
Miyake, T. and J.D. McEachran. 1988. Three new species of the stingray genus *Urotrygon* (Myliobatiformes: Urolophidae) from the eastern Pacific. *Bull. Mar. Sci.*, 42:366-375.

***Urobatis jamaicensis* (Cuvier, 1816)**

RUJ

En - Yellow stingray.

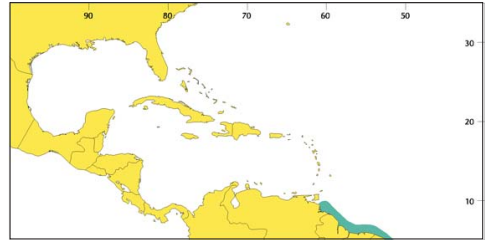
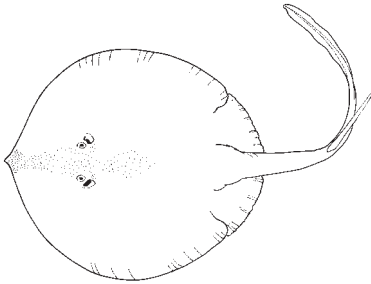
Maximum size 70 cm total length and 36 cm disc width; males mature at 15 to 16 cm disc width. Benthic near shore, over sandy, muddy, grassy, or coral bottoms, and in bays, and estuaries. Recorded from North Carolina to Florida Keys, throughout the Gulf of Mexico, Caribbean coast of Central America, northern coast of South America, and Greater and Lesser Antilles. Both oviducts of females functional and synchronous, and up to 4 neonates born tail first at about 6 cm in disc width. Neonates basically same coloration as adults, and with small spiracular knob or tentacle resorbed shortly after birth. Dorsal surface tan to brown, with numerous golden, greenish to whitish spots and mottlings (of varying diameter) forming a reticulate or vermiculate pattern; ventral surface brownish white to yellowish. Food consists of crustaceans and ray-fined fishes. Females may congregate on turtle grass, or other similar substrates, for parturition.

***Urotrygon microphthalmum* Delsman, 1941**

JUM

En - Smalleye roundray.

Maximum known size about 28 cm total length and about 13.5 cm disc width; males sexually mature between 22 and 24 cm total length, and females at 19 cm total length with young. Young born tail first at about 8 cm total length. Benthic in coastal waters from 16 to 54 m, but possibly occurring in shallower waters. Recorded from northern South America, eastern Venezuela to northern Brazil. Dorsal surface grey to brownish, with distinctly darker caudal fin; ventral surface whitish. Dorsal surface of disc and tail relatively smooth.

***Urotrygon venezuelae* Schultz, 1949****En** - Venezuelan roundray.

Maximum length 29 cm total length and 15.7 cm disc width. Benthic in coastal waters. Recorded from western Venezuela but not common. Dorsal surface uniform greyish brown; ventral surface creamy. Dorsal surface of disc and tail covered with minute denticles.

