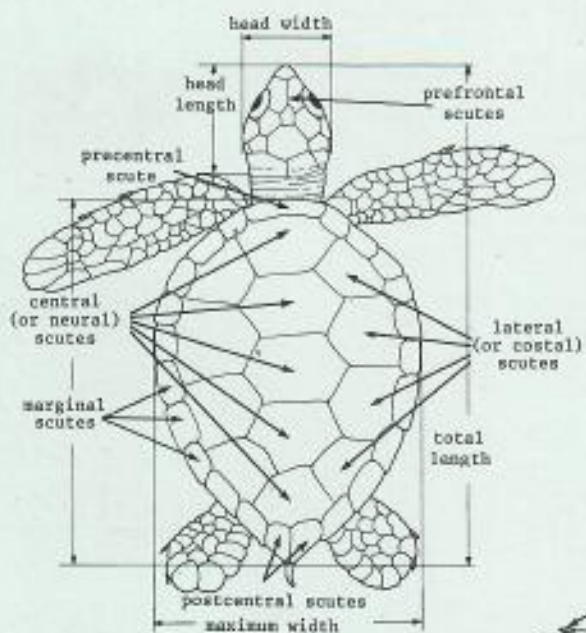
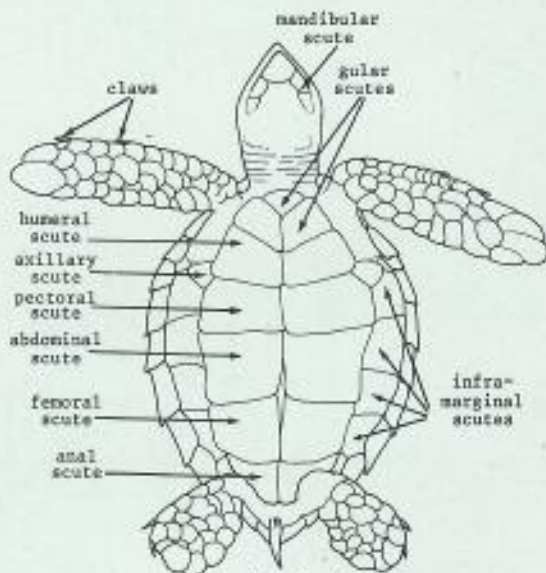


TECHNICAL TERMS AND PRINCIPAL MEASUREMENTS USED  
(Straight-line distances)



dorsal view of a juvenile  
sea turtle (Family Cheloniidae)



ventral view of a juvenile  
sea turtle (Family Cheloniidae)

GENERAL REMARKS

The most typical feature of a turtle is the hard shell encasing the entire body. This shell is composed of a layer of bones underneath and a layer of horn on the outside; the latter often, but not always, displays a geometrical pattern of lamellae or scutes (see basic arrangement and nomenclature in the above figures). The top of the shell or carapace is joined at the sides with the bottom or plastron and the latter is notched in front and rear where the limbs emerge from the shell. All turtles have a strong, horny beak; none have true teeth, although tooth-like projections may be present on the jaws. The limbs or flippers of sea turtles are paddle-shaped.

Sea turtles occur in all tropical and warm-temperate oceans. They inhabit shallow waters along coasts and around islands, but some species are believed to be highly migratory and are found in the open sea. They are swift swimmers and some are said to attain speeds of about 35 km per hour; unlike freshwater turtles they move forward by simultaneous action of the front flippers. All species are compelled to return in regular intervals to the land during the nesting season when they lay their eggs in a nest dug into the sand. After a relatively long incubation period (usually from 45 days to two and a half months) the hatchlings go back to the sea. Very little is known about their movements and fate before they attain sexual maturity. The majority of sea turtles are predominantly carnivorous, but some species are omnivorous or even herbivorous.

Since ancient times turtles have been held in high esteem as food for man. The flesh as well as the eggs are of delicate taste and much of the production goes frozen or canned to export markets for the preparation of turtle soup, calipasa, and other delicacies. Other uses are in the extraction of oil from turtle fat, in the tortoise shell industry and in the leather industry. Fishing gear at sea includes catch by hand, tangle nets, gillnets, seines and harpoons. The catch reported from Fishing Area 31 in 1974 totalled 1 551 tons.

Some marine turtle species are becoming scarce nowadays and are in bad need of protection from irrational exploitation; they are especially vulnerable on land during their nesting period. More recently, farming of sea turtles, especially of the green turtle, has been successfully introduced to some parts of the area; it is hoped that this technique will become more widespread in the near future and thus take off some of the fishing pressure exerted on the species.

The sea turtles of the Western Central Atlantic comprise only 2 families, 3 genera and 6 species.

GUIDE TO FAMILIES AND GENERA OCCURRING IN THE AREA

FAMILY CHELONIDAE

Shell, head and flippers covered with horny lamellae (scutes); horny beak never W-shaped when viewed from the front; flippers with one or two claws.

KEY TO GENERA OCCURRING IN THE AREA:

- 1 a. Horny scutes on carapace imbricated (overlapping in all except very old specimens (Figs. 1b and 1c) ..... *Eretmochelys*
- 1 b. Horny scutes on carapace juxtaposed (not imbricated)
  - 2 a. 4 pairs of lateral (costal) scutes on carapace (Fig. 2c); edge of lower jaw coarsely toothed (Fig. 2b); a single pair of prefrontal scutes (Fig. 2a); a single pair of claws on flippers ..... *Chelonia*
  - 2 b. 5 or more pairs of lateral (costal) scutes on carapace (Figs. 3a and 4a); 2 claws on each flipper
    - 3 a. 4 inframarginal scutes on plastron, each with a small perforation or pore toward their hind margin; carapace semicircular (Fig. 3c) ..... *Lepidochelys*
    - 3 b. 3 pairs of enlarged inframarginal scutes without pores on plastron; carapace heart-shaped (Fig. 4c) ..... *Caretta*

LIST OF SPECIES OCCURRING IN THE AREA:

Code numbers are given for those species for which Identification Sheets are included

<i>Caretta caretta caretta</i> (Linnaeus)	CHEL Car 1
<i>Chelonia mydas mydas</i> (Linnaeus)	CHEL Chel 1
<i>Eretmochelys imbricata imbricata</i> (Linnaeus)	CHEL Eret 1
<i>Lepidochelys kempi</i> (Garman)	CHEL Lepid 1
<i>Lepidochelys olivacea</i> (Eschscholtz)	CHEL Lepid 2

FAMILY DERMOCHELIDAE

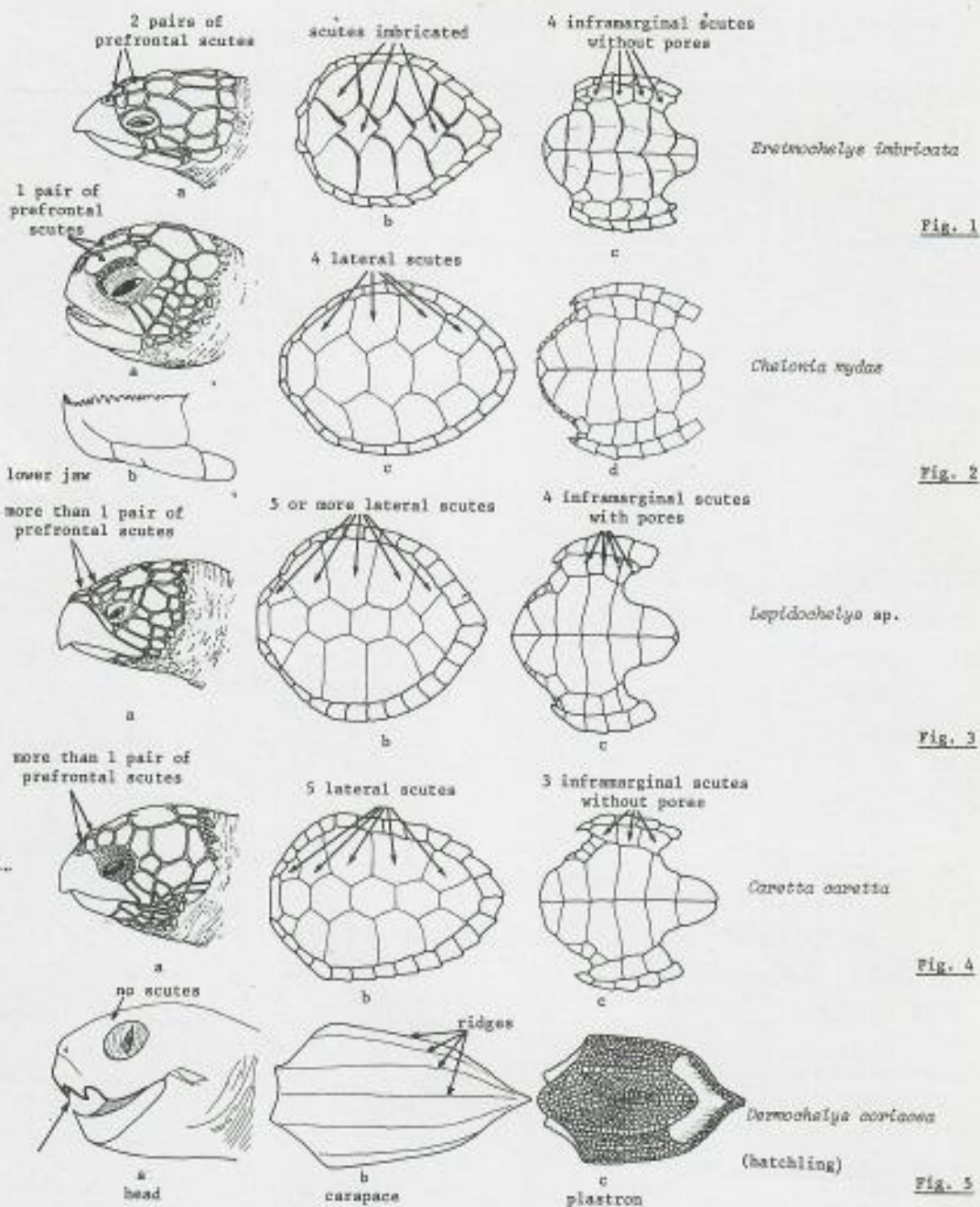
Horny skin smooth, scuteless; carapace black with 7 narrow longitudinal ridges (Fig. 5b). plastron with 5 longitudinal ridges (Fig. 5c); upper jaw with a well-defined cusp on each side, giving the horny beak a W-shaped appearance when viewed from the front (Fig. 5a); flippers without claws, the anterior pair much larger, the posterior broadly connected with the tail by a web in adults.

A single species occurring in the area:

<i>Dermochelys coriacea coriacea</i> (Linnaeus) (Fig. 5)	DERMO Dermo 1
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Prepared by M. Márquez, R., Mexico City, Mexico

PICTURE GUIDE TO SPECIES OCCURRING IN THE AREA

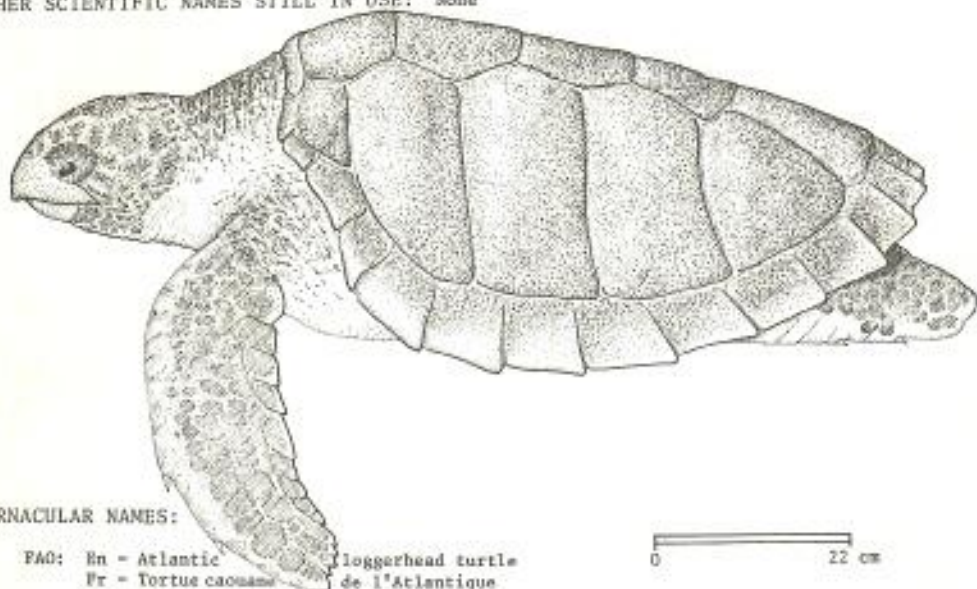


## FAO SPECIES IDENTIFICATION SHEETS

FAMILY: CHELONIDAE

FISHING AREA 31  
(W Cent. Atlantic)*Caretta caretta caretta* (Linnaeus, 1758)

OTHER SCIENTIFIC NAMES STILL IN USE: None



## VERNACULAR NAMES:

FAO: En - Atlantic loggerhead turtle  
Fr - Tortue caouane de l'Atlantique  
Sp - Tortuga caouana del Atlántico

## NATIONAL:

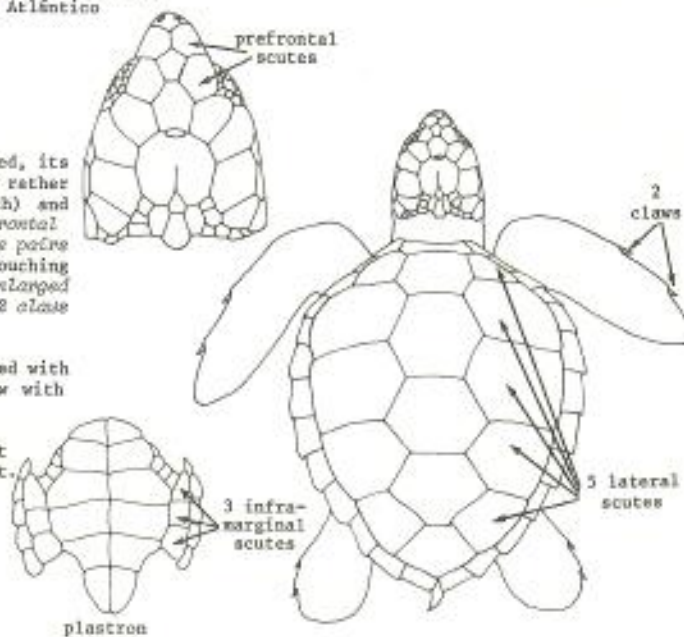
## DISTINCTIVE CHARACTERS:

Carapace heart-shaped, depressed, its width about 76% of the length. Head rather long (about 28% of carapace length) and very broad, with 3 pairs of prefrontal scutes and a strong horny beak. Five pairs of lateral scutes, anterior pair touching the precentral scute; 3 pairs of enlarged inframarginal scutes on plastron; 2 claws on each flipper.

Colour: upper side brownish red with light spots; underside pale yellow with diffuse orange spots.

Eggs: white, spherical, about 4.3 cm in diameter and 36 g in weight.

Hatchlings: length of carapace about 4.5 cm. Colour dark brown with light margins, except for the keels of the plastron which are lighter.



#### DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Other sea turtles with horny scutes on shell: head narrower, carapace broader (except *Eretmochelys imbricata* which is easily distinguished by its imbricated scutes); 4 inframarginal plates on plastron (3 in *Caretta caretta*); upper side of carapace usually not brownish red.

#### SIZE:

Carapace length (straight-line distance): maximum to 125 cm; common to 110 cm.  
Weight: maximum to 140 kg; common to 105 kg.

#### GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Throughout the area, northward extending to Nova Scotia, Canada and southward to Rio de la Plata, Argentina.

Found in coastal bays of moderate depth, often entering streams, but also frequently encountered in the open sea. It is known to be a highly migratory species. The most important nesting areas are found in the Antilles (particularly Cuba), Bahamas, Quintana Roo, Florida and north coast of Colombia. Mating takes place from March to April and oviposition from May to August; the incubation period ranges from 46 to 62 days.

Predominantly carnivorous, feeding on molluscs, crustaceans, fish and jellyfish.



#### PRESENT FISHING GROUNDS:

Mainly on the Caspache bank, along the coasts of Florida, off the Bahamas and throughout the Caribbean Sea.

#### CATCHES, MAIN FISHING GEAR AND PRINCIPAL FORMS OF UTILIZATION:

The catch reported from Fishing Area 31 in 1974 totalled 500 tons (mostly from Cuba, negligible quantities from the U.S.A., Colombia, Mexico and Venezuela). The actual catch is probably higher, especially when considering that no statistics are available from the Caribbean area.

At sea it is caught mainly with tangle nets, seines and harpoons.

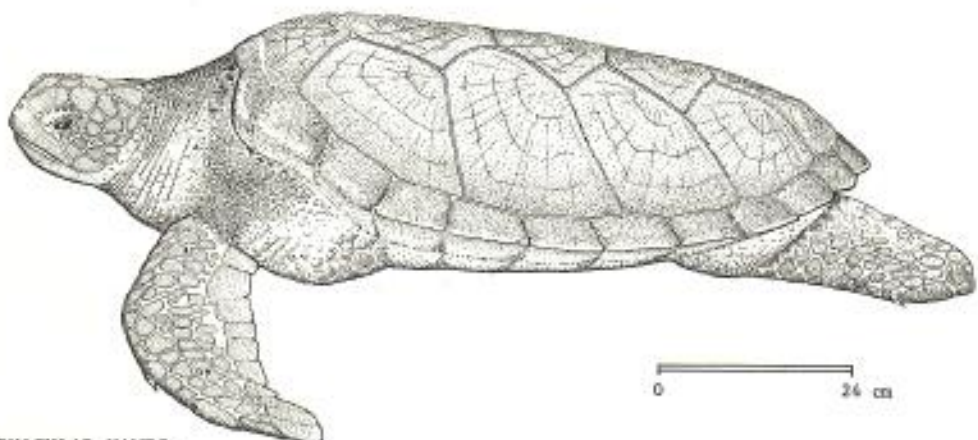
The flesh and eggs of this turtle are reported to be a regular item in the diet of the coastal population, especially in the Caribbean area. The eggs are considered a delicacy; the meat is tasty, but somewhat tough; often exported as filets; the flippers and other parts are used for soup.

## FAO SPECIES IDENTIFICATION SHEETS

FAMILY: CHELONIDAE

FISHING AREA 31  
(W Cent. Atlantic)*Chelonia mydas mydas* (Linnaeus, 1758)

OTHER SCIENTIFIC NAMES STILL IN USE: None



## VERNACULAR NAMES:

FAO: En - Atlantic green sea turtle  
Fr - Tortue verte de l'Atlantique  
Sp - Tortuga verde del Atlántico

## NATIONAL:

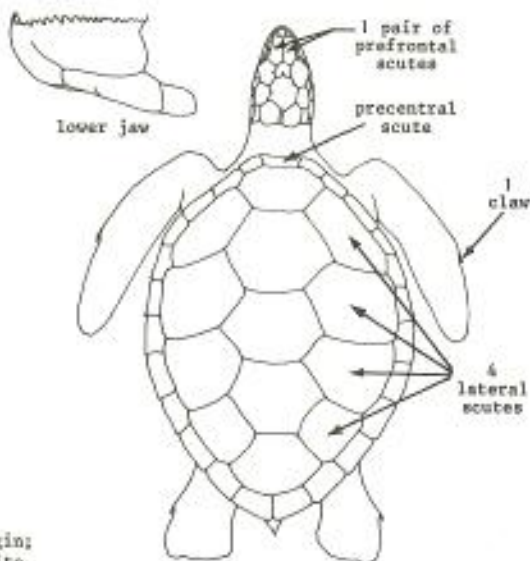
## DISTINCTIVE CHARACTERS:

Carapace oval, depressed, its width about 88% of the length. Head small (about 20% of carapace length), with a single pair of prefrontal scutes; edge of lower jaw coarsely toothed, that of upper jaw with strong ridges on inner surface. Four pairs of lateral scutes on carapace, anterior pair not touching the precentral scute; 4 pairs of inframarginal scutes on plastron; a single claw on each flipper.

Colour: upper side olive brown, scutes of carapace shiny with radiating yellow, green and black spots; underside pale yellow, creamy or whitish.

Eggs: white, spherical, about 4.5 cm in diameter.

Hatchlings: length of carapace about 5 cm. Upper side brownish black, posterior portion of carapace and flippers with a white margin; underside of neck, body and flippers yellowish white.



#### DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Other sea turtles with horny scutes on shell: edges of jaws smooth and more than one pair of prefrontal scutes; also, scutes on shell imbricated in *Eretmochelys imbricata* and 3 or more lateral scutes in the remaining species ( $\frac{1}{2}$  lateral scutes in *C. mydas*).

#### SIZE:

Carapace length (straight line distance): maximum to 105 cm; common to 90 cm.  
Weight: maximum to 140 kg; common to 100 kg.

#### GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Throughout the area, northward to New England, U.S.A. and southward to Rio de la Plata, Argentina; also occurs in the eastern Atlantic and the Mediterranean. Other subspecies of green turtle are found in the Indian and Pacific Oceans.

The optimum habitat is shoal water with an abundance of submerged vegetation, but straggling individuals may be seen at considerable distances from land and larger agglomerations are found on small mid-sea islands. The main nesting areas are located along the western Caribbean coast, on Aves Island and in Surinam; mating takes place from May to July, and oviposition from June to September; the incubation period varies with latitude, ranging from 45 to 60 days.

Adult green turtles are mainly herbivorous, feeding on several species of sea-grass, but they are not adverse to eating animals; captive green turtles are commonly fed animal food.



#### PRESENT FISHING GROUNDS:

Throughout the area, but especially off the western Caribbean coast, Florida, on the Campeche Bank and off the Guianas; also exploited off Brazil to the south of fishing area 31.

#### CATCHES, MAIN FISHING GEAR AND PRINCIPAL FORMS OF UTILIZATION:

The catch reported from fishing area 31 in 1974 totalled 579 tons (Cuba: 400 t; U.S.A.: 100 t; and Mexico: 79 t). In addition, farming of the species has been introduced to some localities; i.e. the production from turtle farms on the Great Cayman Islands attained nearly 500 tons in 1975.

At sea it is mainly caught with tangle nets, seines and harpoons. On the nesting grounds, adult females are simply turned on their backs.

The flesh is marketed fresh locally or exported frozen. Also used in the preparation of sub-products such as oil, calipee and leather.

Since the population has been heavily depleted as a result of irrational exploitation, several countries in the area have adopted regulatory measures ranging from partial to full protection of eggs and adult females.

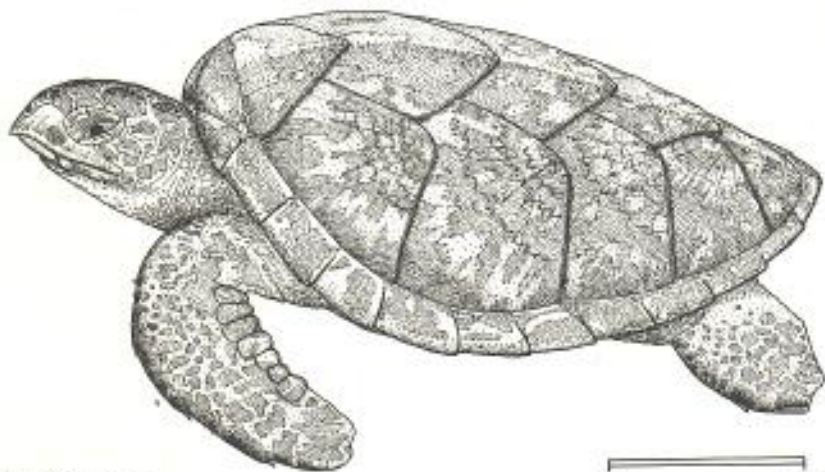


## FAO SPECIES IDENTIFICATION SHEETS

FAMILY: CHELONIDAE

FISHING AREA 31  
(W Cent. Atlantic)*Eretmochelys imbricata* (Linnaeus, 1766)

OTHER SCIENTIFIC NAMES STILL IN USE: None



## VERNACULAR NAMES:

FAO: En - Atlantic hawksbill turtle  
Fr - Tortue caret de l'Atlantique  
Sp - Tortuga de carey del Atlántico

## NATIONAL:

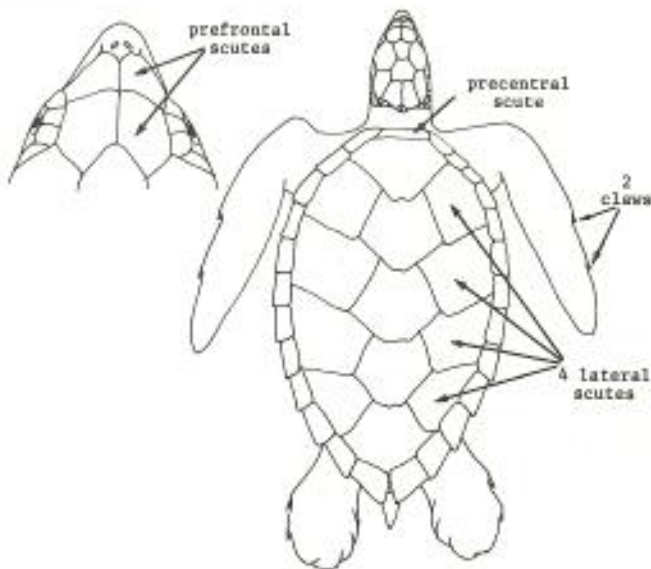
## DISTINCTIVE CHARACTERS:

Carapace oval, depressed, its width about 75% of the length. Head medium-sized (about 27% of carapace length), with 8 pairs of prefrontal scutes and a strong horny beak. Scutes on shell imbricated (overlapping) in all but very old specimens where they are juxtaposed; 4 pairs of lateral scutes on carapace, anterior pair not touching the pre-central scute; 4 pairs of inframarginal scutes on plastron; 2 claws on each flipper.

Colour: upper side dark brown, with yellow and reddish streaks on scutes; underside pale yellow.

Eggs: white, spherical, 3.5 to 4.0 cm in diameter and 28 g in weight.

Hatchlings: length of carapace about 4.5 cm; colour dark brown.



#### DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

No other adult sea turtle from this area has imbricated scutes on carapace or plastron; the only other species with 4 lateral scutes on the carapace is *Chelonia mydas*, but the carapace is much broader, the flippers bear a single claw and the lower jaw is roughly toothed (smooth in *E. imbricata*).

#### SIZE:

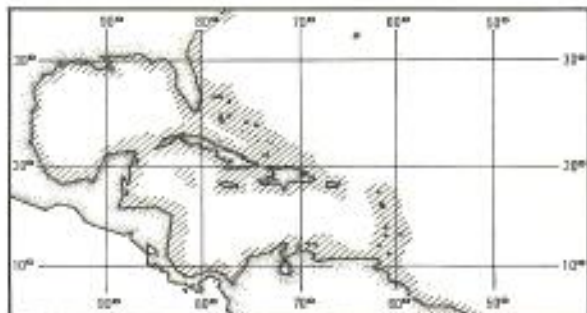
Carapace length (straight-line distance): maximum to 90 cm; common to 80 cm.  
Weight: maximum to 120 kg; common to 60 kg.

#### GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Throughout the area, northward to Massachusetts, U.S.A. and southward to southern Brazil; also occurs in the western Atlantic where it is apparently rare. Another subspecies of hawksbill turtle, *Eretmochelys imbricata bissa*, is found in Indo-Pacific waters.

Inhabits coastal waters, including shallow vegetated bottoms as well as bays and lagoons with muddy bottoms lacking extensive beds of submarine vegetation. Mating takes place from February to March and oviposition from April to June; the incubation period ranges from 45 to 55 days.

The hawksbill turtle is an omnivorous species; its diet includes jellyfish, sponges, sea urchins, crustaceans, seaweeds and seagrass.



#### PRESENT FISHING GROUNDS:

Traditional fishing grounds are located around coral islands or along rocky coasts; presently caught mainly off Cuba and along the western and southern coasts of the Caribbean Sea.

#### CATCHES, MAIN FISHING GEAR AND PRINCIPAL FORMS OF UTILIZATION:

The catch reported from fishing areas 31 in 1974 totalled 305 tons (Cuba: 300 t; Dominican Republic and Venezuela: negligible quantities); most likely a substantial part of the catch, especially of juveniles, is not reported.

At sea it is mainly caught with tangle nets, seines and harpoons.

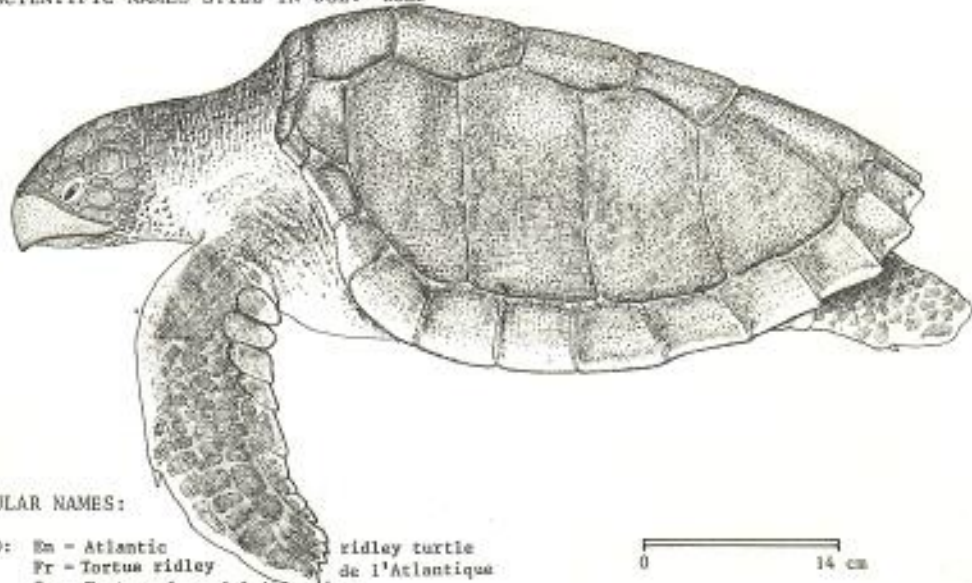
Marketed fresh in some countries; the meat as well as the eggs are good eating, although in many places the former is not particularly fancied and is reported to be sporadically poisonous (probably as a result of the turtle's diet). The most important product obtained from this species is the tortoise-shell or carey which is widely used in artisanal work.

## FAO SPECIES IDENTIFICATION SHEETS

FAMILY: CHELONIDAE

FISHING AREA 31  
(W Cent. Atlantic)*Lepidochelys kempi* (Gerran, 1880)

OTHER SCIENTIFIC NAMES STILL IN USE: None



## VERNACULAR NAMES:

FAO: En - Atlantic ridley turtle  
 Fr - Tortue ridley de l'Atlantique  
 Sp - Tortuga lora del Atlantico

0 14 cm

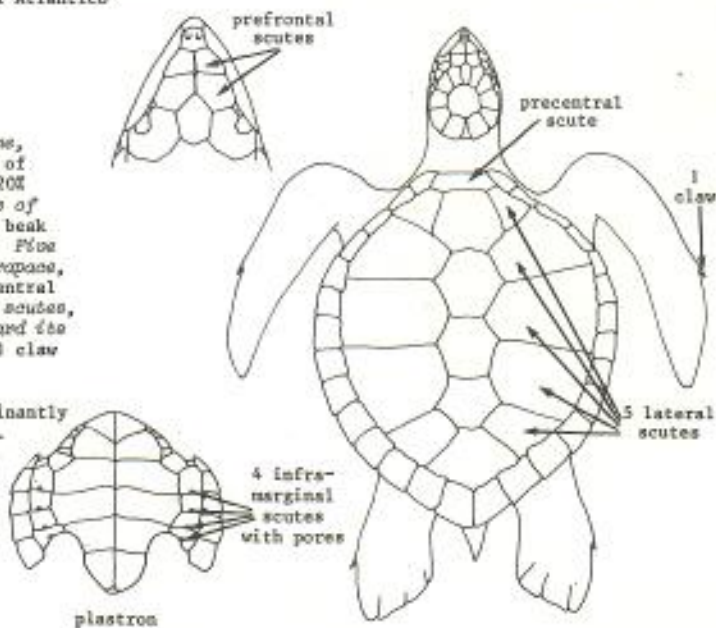
## NATIONAL:

## DISTINCTIVE CHARACTERS:

Carapace circular in outline, depressed, its width about 95% of the length. Head small (about 20% of carapace length) with 2 pairs of prefrontal scutes and a horny beak which may be finely serrated. Five pairs of lateral scutes on carapace, anterior pair touching the precentral scute; 4 pairs of inframarginal scutes, each perforated by a pore toward the hind margin; adults with only 1 claw on each flipper.

Colour: upper side predominantly grayish; underside pale yellow.

Eggs: white, spherical, about 4 cm in diameter and 32 g in weight.



Hatchlings: length of carapace about 4.2 cm; shell with 3 longitudinal ridges above and 2 below. Upper side dark grey to black, underside slightly paler; some individuals display white margins on flippers and greenish tones in the axillary region.

#### DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

*Epidemichelys olivacea*: similar in shape, but very rarely found in the area occupied by *L. koepfli*; colour darker (olive); shell deeper and slightly more elongated; central scutes on carapace flat and usually more than 5 pairs of lateral scutes.

No other turtle species occurring in the area has pores on the inframarginal scutes or a nearly circular carapace.

#### SIZE:

Carapace length (straight-line distance): maximum to 73 cm; common to 70 cm.  
Weight: maximum to 45 kg; common to 42 kg.

#### GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Gulf of Mexico, Bermuda and Atlantic coast of the U.S.A. to Massachusetts, but stragglers have been reported as far north as New England; there are also a few records from Panama and Colombia. Also frequently found in European waters.

This species seems to prefer shallow water and is associated with the subtropical shoreline of mangrove, where it is often found on shrimp grounds. The only important nesting area is Yamsulipas, Mexico; mating takes place from March to April and oviposition from April to July; the incubation period ranges from 45 to 60 days.

Feeds on crabs, shrimps, jellyfish and fishes.



#### PRESENT FISHING GROUNDS:

Formerly caught on the shrimp grounds of the Campeche Bank and along the northern coast of the Gulf of Mexico, including east Florida.

#### CATCHES, MAIN FISHING GEAR AND PRINCIPAL FORMS OF UTILIZATION:

Exploitation of this species is forbidden by law throughout the area, since the population has been strongly depleted in recent years. However, it is estimated that about 500 specimens amounting to some 20 tons are still caught annually.

Taken in shrimp trawls and generally not returned to the sea.

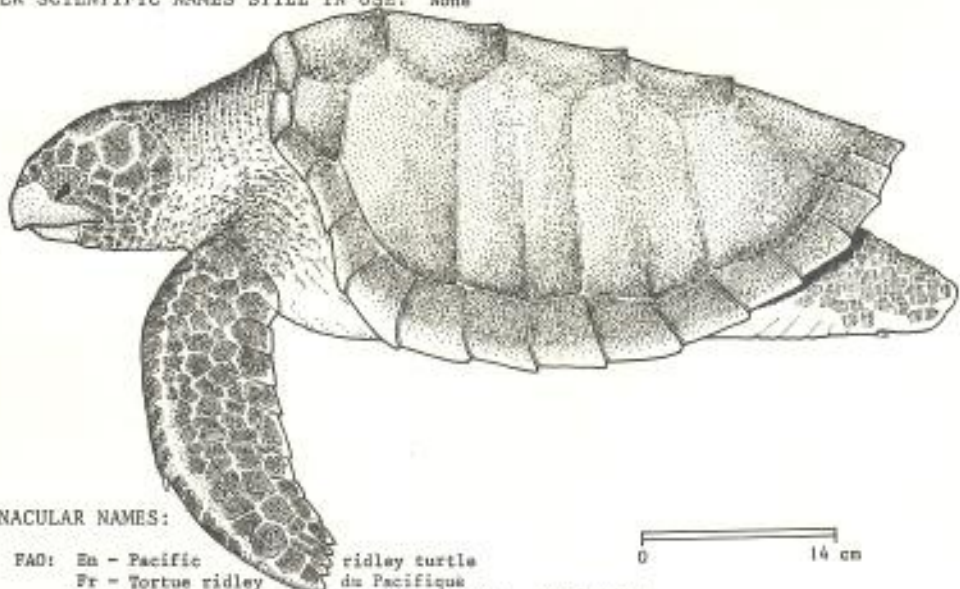
Not normally marketed. The flesh is not highly esteemed in some localities, but the eggs used to be eaten throughout its range.

## FAO SPECIES IDENTIFICATION SHEETS

FAMILY: CHELONIDAE

FISHING AREA 31  
(W Cent. Atlantic)*Lepidochelone olivacea* (Eschscholtz, 1829)

OTHER SCIENTIFIC NAMES STILL IN USE: None



## VERNACULAR NAMES:

FAO: En - Pacific ridley turtle  
Fr - Tortue ridley du Pacifique  
Sp - Tortuga golfina

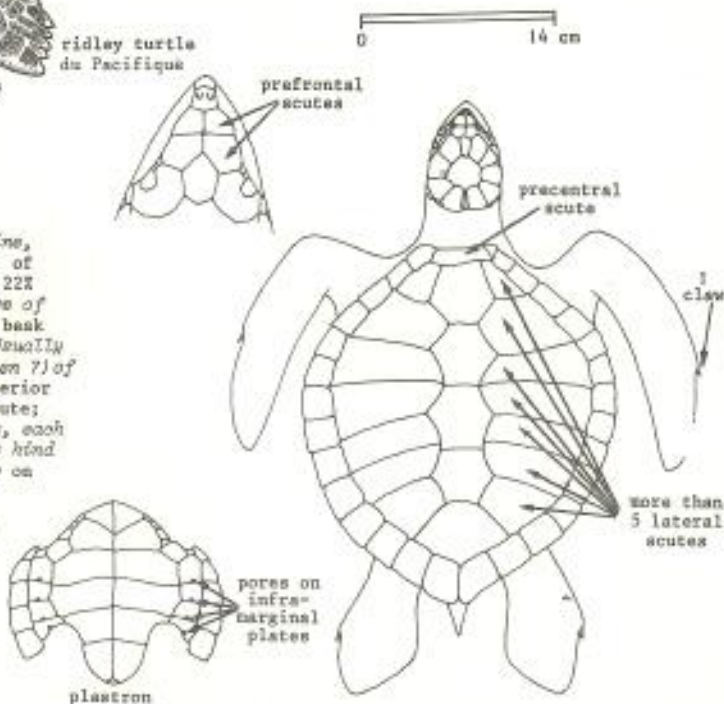
NATIONAL:

## DISTINCTIVE CHARACTERS:

Carapace circular in outline, depressed, its width about 90% of the length. Head small (about 22% of carapace length) with 2 pairs of prefrontal scutes and a horny beak which may be finely serrated. Usually more than 5 pairs (sometimes even 7) of lateral scutes on carapace, anterior pair touching the precentral scute; 4 pairs of inframarginal scutes, each perforated by a pore toward its hind margin; adults with only 1 claw on each flipper.

Colour: upper side olive brown; underside yellowish white.

Eggs: white, spherical, about 3.9 cm in diameter and 33 g in weight.



Hatchlings: length of carapace about 4 cm; shell with 3 longitudinal ridges above and 2 below; scutes slightly imbricated. Colour greyish to black with yellow margins to the shell.

#### DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

*Lepidochelys kempi*: similar in shape, but very rarely found in the area occupied by *L. olivacea*; colour lighter, predominantly greyish; carapace slightly broader and more strongly depressed, its margin curved upward and the central scutes convex (nearly flat in *L. olivacea*); 5 pairs of lateral scutes on carapace (usually more than 5 in *L. olivacea*).

No other turtle species occurring in the area has pores on the inframarginal scutes or a nearly circular carapace.

#### SIZE:

Carapace length (straight line distance): maximum to 76 cm; common to 72 cm.  
Weight: maximum to 55 kg; common to 52 kg.

#### GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Atlantic coast of South America from eastern Venezuela to eastern Brazil; a few records exist from Cuba and Puerto Rico. This is mainly a Pacific species which also occurs in the Indian Ocean.

Found in shallow coastal waters as well as in the open sea. The most important nesting areas are found on the coast of the Guianas; oviposition takes place from April to August; the incubation period ranges from 49 to 62 days.



#### PRESENT FISHING GROUNDS:

Off the coast of the Guianas; also off northeast Brazil (outside fishing area 31).

#### CATCHES, MAIN FISHING GEAR AND PRINCIPAL FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Apparently taken in small numbers in the nesting area; at sea it is caught incidentally by shrimp trawlers.

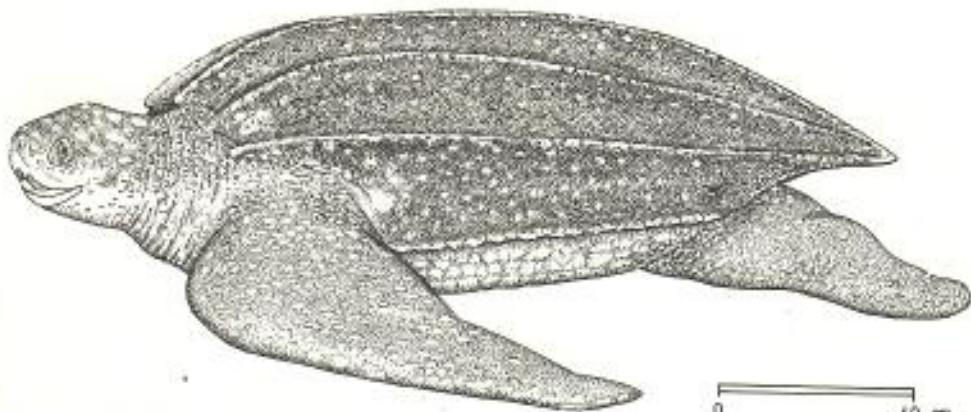
The flesh and eggs are marketed locally.

## FAO SPECIES IDENTIFICATION SHEETS

FAMILY: DERMOCHEILIDAE

FISHING AREA 31  
(W. Cent. Atlantic)*Dermochelya coriacea coriacea* (Linnaeus, 1758)

OTHER SCIENTIFIC NAMES STILL IN USE: None



## VERNACULAR NAMES:

FAO: En - Atlantic leatherback turtle  
Fr - Tortue luth de l'Atlantique  
Sp - Tortuga luth del Atlántico

## NATIONAL:

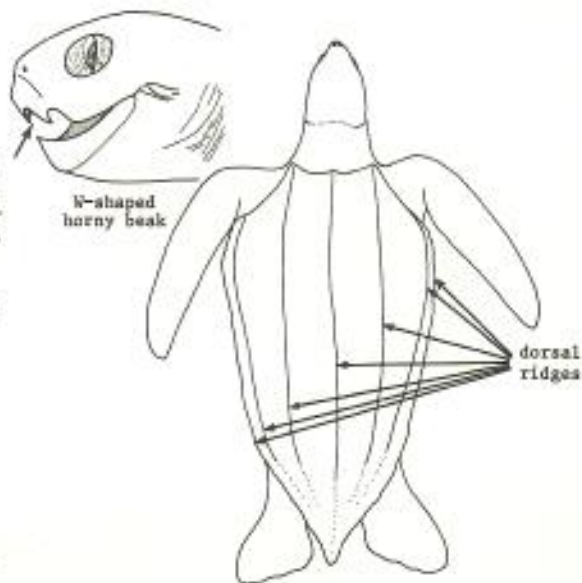
## DISTINCTIVE CHARACTERS:

Body depressed and covered by a smooth horny skin lacking lamellae or scutes. Head small, ending in a horny beak with a well defined cusp at each side of upper jaw and a central cusp on lower jaw (beak W-shaped when viewed from the front). 7 longitudinal ridges (including the outer or lateral pair) on carapace and 5 on plastron. Flippers very large, without claws.

Colour: upper side dark brown to almost black; whitish spots on neck, increasing in number on the ventral and caudal areas.

Eggs: white, spherical, normally about 5.5 cm in diameter; unfertilized small eggs may often be found.

Hatchlings: length of carapace about 5.5 cm. They show basically the same features as the adult, but the flippers are much larger and the skin is rugose with a reticulate pattern of small scales. Upper side black, with lateral ridges white; under-side white, mottled with light brown.



DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

All other sea turtles occurring in the area have horny lamellae or scutes all over their body and adults lack the longitudinal ridges on carapace and plastron.

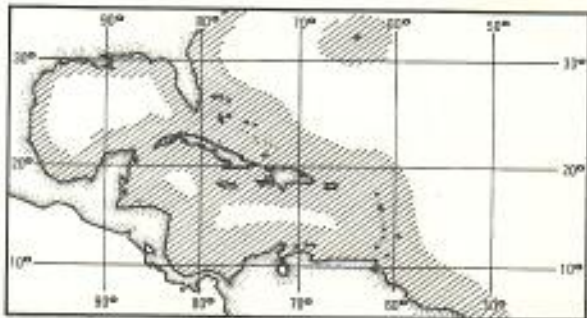
SIZE:

Carapace length (straight line distance): maximum to 180 cm; common to 140 cm.  
Weight: maximum to 725 kg; common to 300 kg.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Throughout the area, including Bermuda; northward extending to Nova Scotia, Canada, and southward to Rio de la Plata, Argentina. Also found in the Mediterranean and the eastern Atlantic from the British Isles to the Cape of Good Hope. Another subspecies, *Dermochelys coriacea schlegelii* occurs in the Pacific and Indian Oceans.

A predominantly pelagic and highly migratory species, found usually in the open sea, but approaching the land seasonally. The most important nesting areas are found in Costa Rica, Guyana and Surinam; oviposition takes place from March to September; the incubation period ranges from 50 to 70 days.



PRESENT FISHING GROUNDS:

Caught incidentally throughout its range; normally rather scarce, except in certain areas during the nesting season.

CATCHES, MAIN FISHING GEAR AND PRINCIPAL FORMS OF UTILIZATION:

Separate statistics are not reported for this species. It is estimated that less than 20 leatherback turtles are caught annually in the Western Central Atlantic.

At sea it is caught mainly with tangle nets and harpoons; sometimes also taken on the nesting areas.

The meat is usually not esteemed and used mainly for bait, but the eggs are good-eating; the fat and other parts are used for the production of oil.

The capture of this species is forbidden in most countries of the area, due to the depletion of the stock in recent years.

from  
DEPARTAMENTO DE PESCA  
ALVARO OBREGÓN 269-10 P.  
MEXICO 7, D.F.