Our Diminishing Heritage

The sea, which covers the majority of the Earth's surface, is virtually the "last frontier" in terms of the discovery of possibly many new forms of unknown creatures.

Whilst the fish and their more humble relatives dominate in numbers of species this domain of intrigue, three main orders of warm blooded mammals share the marine environment.

The seals and whales represent two of the forms of which many stories of legend and fact have been written depicting these denizens of the deep. The third order, the "Sea-cows" or *Sirenia*, leads us to an animal of which very little is known to man.

The word *Sirenia* was taken from the ancient belief in Sirens who, with their weird songs, lured unwary ancient mariners to their destruction in the surf. These beasts were often observed on the surface of the sea by early navigators, and reports of the sightings were often fantasised to those of beauteous blonde women of the sea or mermaids with flowing tresses and fish-like tails.

However, these beasts, like whales, have no definite voice, so that if the sirens' singing was based on that of the Sea-cow, it must have represented a highly imaginative conception of the whistling sigh of air rushing through the nostrils—although calves are said to have a bleating cry like a young lamb.

The Dugong (*Dugong dugon*), the species of Sea-cow in Australian waters, has two related species, the Manatee in the tropical Atlantic and the extinct Steller's Sea-cow (a huge animal of 35 ft in length) which inhabited the Bering Sea. Dugongs grow to around 10 ft (3 metres) in length and weigh between 1 000 and 1 200 lbs (450 kg and 550 kg), somewhat less than the related Manatee. Very little is yet known about the breeding biology of the Dugong and much vital data are still required about the time-scale of the life history. Nothing is known about the age of maturity, length of gestation, period of suckling or rate of growth.

In Western Australia Dugong are found in the waters of Shark Bay and Exmouth Gulf; along the North West coast, with concentrations having been recorded in the vicinity of Port Weld and the Dampier Archipelago and in the Kimberley. From there, the Australian extent of their range is around the north coast to within the Great Barrier Reef. The animal is the only species of herbivorous mammal that lives entirely in the sea and is in fact physically incapable of leaving the water.

They are essentially sociable creatures and may assemble in herds of 6 to 40 or more individuals, in which females are always more numerous than males. Shallow seas, bays and estuaries are frequented, where they browse not upon algae as first thought, but upon the marine grasses, existing in great abundance throughout the reef flats of the inner tropical coasts.

Dugongs are inoffensive, sluggish creatures except when alarmed and are apparently endowed with comparatively small intelligence.

Usually a single calf is born and is tended with fastidious care by the mother. The flippers, more flexible and of looser elbow action than in males, enable the sea-cow to hold her nursling partly clasped to her breast when rising with head and shoulders exposed to suckle it; also rising frequently to breathe, she is careful to see that the calf gulps in fresh air.

As in most mammals the head of the Dugong is small in comparison to the body. The nostrils, though having a valve-like flap, are situated at the extremity of the muzzle; the eye is small while the inconspicuous ear provides acute hearing.

The general term "Sea-cow" is derived purely from the bovine feeding habits of grazing on the sea-grasses. It has been scientifically determined, however, that the animals are directly related to the terrestial elephant.

The extraordinarily mobile and greatly enlarged upper lip is of considerable aid in feeding, as it is sufficiently prehensile to seize grass and thrust it back into the mouth, the action being aided by strong backwardly directed bristles on the lip.

The two teats of the dugong are situated on the breast beneath the flippers, thus emphasising again the relationship with elephants in which the single pair of teats is placed between the fore legs, in contrast to the addominal udder of cows. The ivory tusks found in dugong are also analogous to those of elephants in that both are front or incisor teeth, and not canines as are the tusks of wild boars or hippopotami.

In sea-cows and elephants there is a unique provision for the replacement of worn teeth by a progression forward of the rearmost molars. This steady progression forward of unlimited number of teeth compensates for the rapid wear and tear involved in eating aquatic plants with which a large amount of sand may be mixed.

The bones of Dugong are noted for their high density, especially the skull and ribs, the weight of which helps the ungainly animals to remain submerged while feeding.

The hide of the beast is a thickened leathery skin with fine hairs discernible over the body and covering a layer of oily blubber. The skin (usually scarred by contact with jagged coral and possibly the tusks of males) varies in colour from reddish-brown to bluish or greenish olive-grey with fleshy white under-parts.

Throughout the world (see distribution opposite page) Dugong have been hunted and killed for their tusks, hides, oil and very palatable high-protein flesh. Aphrodisacal and medicinal properties have also been attributed to Dugong oil and meat

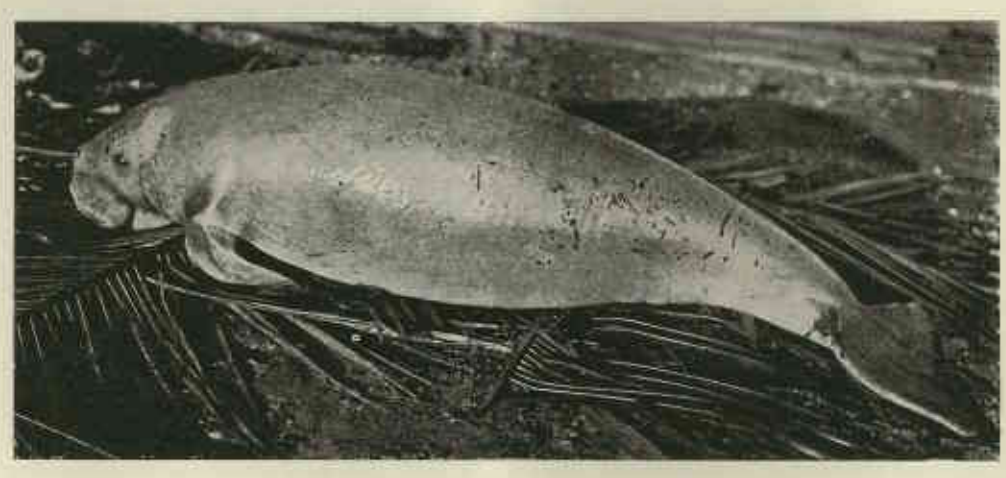
Although the Australian Aborigine is still allowed to hunt the Dugong for food, the beasts appear to have found a secure home, away from man's predations in Australian waters. The calculated stable numbers, remote breeding grounds and its classification of rare and likely to become extinct, give the animal a chance of survival in Western Australia.

Moves are afoot to commence further studies on the Dugong in Western Australia, which will further enhance the existence of these gentle vegetable feeders.

It cannot be over emphasised that their increasing scarceness, defencelessness, and their apparent slow rate of breeding render it essential that the protection at present afforded should be extended for all time and rigorously enforced.

DUGONG

DUGONG DUGON



DISTRIBUTION

Distribution of the Dugong is from Madagascar, following the coastline of Africa, Asia Minor and Asia, including India, the Malay Peninsula, Indonesia, Northern Australia, New Guinea, the Solomon and Marshall Islands, and as far north as Taiwan.

SIZE

Adult (average) 3 metres
Weight (average) 450 kg–550 kg

FOOD

Sea Grasses particularly *Diplanthera* (*Halodule*), and *Cymodocea*—

COLOUR

Reddish-brown to bluish or greenish olive-grey, white under-parts. Older animals may be heavily scarred.

Dugong on the surface in Shark Bay, July, 1966. Photo by J. L. Bannister.