ROT Turtles green, hawksbill, loggerhead, flatback, leatherback and olive ridley turtles

**Leatherback turtle (*Dermochelys coriacea*)**

The leatherback turtle is carnivorous and feeds mainly in the open ocean on jellyfish and other soft-bodied invertebrates.

There are no data on the distribution and diet of post-hatchling *D. coriacea* in the Australian region (Limpus *et al*. 1994).

*D. coriacea* is carnivorous. In Australian waters it feeds extensively on colonial tunicates such as *Pyrosoma spp.* (Prince, 2004), jellyfish such as *Catostylus spp*. and other soft-bodied invertebrates (Bone, 1998; Cogger, 1992; Limpus, 1984; Limpus and McLachlan, 1979). It will feed at all levels of the water column from benthos to surface (Limpus, 1984).

# Loggerhead turtle (Caretta caretta)

Loggerhead turtles are carnivorous, feeding mostly on shellfish, crabs, sea urchins and jellyfish.

Abstract: Loggerhead sea turtles (Caretta caretta) feed predominantly on marine crustaceans, mollusks, and other hard-shelled macroinvertebrates. In this note, we report on a subadult loggerhead observed to be feeding on live fish swarming around the turtle in a prey-fish ball. The observation suggests that loggerheads occasionally prey upon certain pelagic fish species other than those encountered as carrion or fishing bait, and may explain accounts of turtles impaled by billfish (Istiophoridae) rostra.

Gut contents of stranded loggerheads have included predominantly marine crustaceans, mollusks, and other hard-shelled macroinvertebrates (Lutcavage and Musick 1985; Dodd 1988; Ruckdeschel and Shoop 1988; Burke and Standora 1993; Plotkin et al. 1993; Lazar et al. 2010). Decapterus punctatus (Carangidae), Harengula jaguana (herring), and Sardinella aurita were taken by this turtle In the early life stage, juveniles remain in the epipelagic zone, foraging primarily on gelatinous zooplankton and other small invertebrates [4]. After spending some years in this oceanic habitat, large juveniles recruit to neritic habitats and shift to a diet composed primarily of hardshelled benthic invertebrates [4,6,7], such as molluscs, crabs and barnacles;

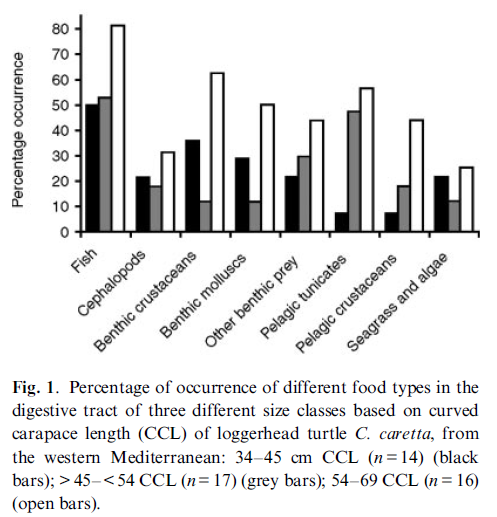
Juvenile loggerhead turtles raft along major oceanic gyres in association with *Sargassum* algae or ‘weed lines’ that provide transportation, protection and food (Carr, 1986; Carr, 1987). Loggerheads at this early stage are omnivorous, opportunistic feeders consuming soft prey items that include small invertebrates, sea grass fragments, algae, gelatinous zooplankton (i.e. jellyfish, cnidarians and small transparent organisms living in the water column of the open ocean) and decapod larvae (Bjorndal and Zug, 1995; Parker et al.,

2005). The time spent in this oceanic stage is species dependent, but is followed by an ontogenetic shift from oceanic to coastal, neritic developmental habitats, where turtles continue to grow and complete their sexual maturation. For loggerheads in the North Atlantic Ocean, this shift occurs at a standard carapace length (SCL) of ~40–60cm (Carr, 1986; Carr, 1987; Bolten and Balazs, 1995; Bjorndal et al., 2000; Bjorndal et al., 2003). Loggerheads in the Pacific ocean, including Japan in the North Pacific and also Australia in the South

Pacific, recruit to neritic habitats at SCLs of up to 75cm (Nichols et al., 2000; Limpus and Limpus, 2003; Snover, 2008; Ishihara et al., 2011). This ontogenetic shift in habitat

is associated with an ontogenetic shift from a pelagic to a benthic diet. During this shift, loggerheads increasingly consume hard-shelled prey (Bjorndal, 1997; Seney and Musick, 2007) such as crabs, gastropods, bivalves and barnacles but also gelatinous zooplankton,

squid and occasionally fish.



As in other studies (e.g. Burke et al., 1993b; Godley et al., 1997) in our sample of loggerheads, crustaceans, especially crabs, were numerically important prey. However, the greater importance of pelagic tunicates and particularly fish, was unexpected.

juveniles:

|  |  |
| --- | --- |
| **prey item** | **probability of consuming** |
| SAL | 0.3 |
| ZME (jellyfish) | 0.3 |
| FSR | 0.05 |
| FDT | 0.05 |
| SAR | 0.05 |

subadults:

|  |  |
| --- | --- |
| **prey item** | **probability of consuming** |
| SAL | 0.2 |
| ZME (jellyfish) | 0.2 |
| MAZ | 0.1 |
| BFF | 0.1 |
| BG | 0.1 |
| FSR | 0.1 |
| FDT | 0.1 |
| SAR | 0.1 |
| CEP | 0.1 |
| SGR | 0.1 |
| MA | 0.1 |

adults:

|  |  |
| --- | --- |
| **prey item** | **probability of consuming** |
| SAL | 0.1 |
| ZME (jellyfish) | 0.1 |
| MAZ | 0.3 |
| BFF | 0.3 |
| BG | 0.3 |
| FSR | 0.2 |
| FDT | 0.2 |
| SAR | 0.2 |
| CEP | 0.2 |
| SGR | 0.1 |
| MA | 0.1 |

<http://www.environment.gov.au/coasts/species/turtles/leatherback.html>

<http://www.austurtle.org.au/SeaTurtleBiology/Leatherback_Vandelli.pdf>

C. J. Limpus 1984 A Benthic Feeding Record from Neritic Waters for the Leathery Turtle (Dermochelyscoriacea) Copeia, Vol. 1984, No. 2 (May 1, 1984), pp. 552-553

Prince, R. I. T. (2004). Stranding of small juvenile leatherback turtle in Western Australia. *Marine Turtle Newsletter* 104, 3–4.

Bone, C. (1998). Preliminary investigation into leatherback turtle, *Dermochelys coriacea* (L.)

distribution: abundance and interactions with fisheries in Tasmanian waters. *Unpublished*

*Report by Tasmanian Parks and Wildlife Service*. Pp. 1–25.

Cogger, H. G. (1992). "Reptiles and Amphibians of Australia". (Reed Books: Sydney.)

Limpus, C. J. and McLachlan, N. C. (1979). Observations on the leatherback turtle,

*Dermochelys coriacea* (L.), in Australia. *Australian Wildlife Research* 6,105–116.

[Hirama, S](http://apps.webofknowledge.com/OneClickSearch.do?product=UA&search_mode=OneClickSearch&excludeEventConfig=ExcludeIfFromFullRecPage&colName=WOS&SID=U14km1ibYfcAeYJV2yy&field=AU&value=Hirama,%20S) (Hirama, Shigetomo)**[** [**1**](http://apps.webofknowledge.com/full_record.do?product=UA&search_mode=GeneralSearch&qid=10&SID=U14km1ibYfcAeYJV2yy&page=1&doc=7#addressWOS:000313406400018-1) **]** ; [Witherington, B](http://apps.webofknowledge.com/OneClickSearch.do?product=UA&search_mode=OneClickSearch&excludeEventConfig=ExcludeIfFromFullRecPage&colName=WOS&SID=U14km1ibYfcAeYJV2yy&field=AU&value=Witherington,%20B) (Witherington, Blair)**[** [**1**](http://apps.webofknowledge.com/full_record.do?product=UA&search_mode=GeneralSearch&qid=10&SID=U14km1ibYfcAeYJV2yy&page=1&doc=7#addressWOS:000313406400018-1) 2012 A Loggerhead Sea Turtle (Caretta caretta) Preying on Fish Within a Mixed-Species Feeding Aggregation CHELONIAN CONSERVATION AND BIOLOGY  Volume: 11   Issue: 2   Pages: 261-265

Christopher D. Marshall1,2,\*, Alejandra Guzman2, Tomoko Narazaki3, Katsufumi Sato3, Emily A. Kane4 and Blair D. Sterba-Boatwright5 2012 The ontogenetic scaling of bite force and head size in loggerhead sea turtles (*Caretta caretta*): implications for durophagy in neritic, benthic habitats. The Journal of Experimental Biology 215, 4166-4174

J. Tomas,\* F. J. Aznar and J. A. Raga 2001 Feeding ecology of the loggerhead turtle Caretta caretta in the western Mediterranean J. Zool., Lond 255, 525-532