

While Kenchington (1981) mentioned that the Great Barrier Reef Marine Park Authority would be conducting biological surveys of Green Island reef 'later in 1979', I have been unable to locate data from any such surveys. Similarly, the Green Island Management Committee (1980) refers to surveys by the Queensland Fisheries Service (now the Fisheries Branch of the Queensland Department of Primary Industries) of demersal reef fish and crown-of-thorns starfish, and mapping of the overall coral reef community zonation, the results of which do not appear to have been published.

TURTLES

Mr J. Miller (Queensland National Parks and Wildlife Service) considers knowledge of the turtles at Green Island to be scarce, with 'numerous opinions about them...(but)...no published synthesis'. From his work on the turtle population, along with interviews with long-term residents, he has determined the presence of two species of turtles at Green Island reef - green turtles (*Chelonia mydas*) and hawksbill turtles (*Eretmochelys imbricata*). Juvenile, subadult and adult hawksbill turtles have been recorded as living on the reef, although population size is undetermined. While juvenile and subadult green turtles have been recorded, there appears to be no adults - possibly an artefact from local hunting (Miller, pers. comm.).

The Green Island Management Committee (1980) noted that while immature green and hawksbill turtles used the reef surrounding Green Island as year-round feeding grounds, the cay was not considered to be a turtle nesting area. However, Miller (pers. comm.) determined from an interview with long-term resident G. Craig that green turtle nesting had occurred in 1974/75 (2 individuals) and 1984/85 (1 individual which nested 7 times). It was noted that these coincided with the 'big nesting seasons' when large numbers of green turtles nested at all the major rookeries, many of the cays and along the mainland of eastern Australia (Miller, pers. comm.).

ASCIDIANS

Kott (1980) lists six species of algal-bearing didemnid ascidians from Green Island reef:

Trididemnum miniatum

Lissoclinum voeltzkowi

Lissoclinum bistratum

Lissoclinum punctatum

Diplosoma virens

Diplosoma similis

CRUSTACEANS

Since May 1989, L. McKenzie of the Queensland Department of Primary Industries Northern Fisheries Research Centre, Cairns, has been examining the diversity and abundance of caridean shrimps and penaeid prawns associated with the *Halodule uninervis*/*Cymodocea serrulata* seagrass meadow on the north-west corner of the reef. Sampling has been on a 3-monthly basis using a beam trawl 1.5m wide and 0.5m high with 2mm mesh towed over 50m transects at approximately 0.5ms⁻¹. Sampling is expected to continue until March 1992 (McKenzie, pers. comm.).

ECHINODERMS

Saville-Kent (1893) noted that Green Island was a central station for the collection and curing of all of the most valuable commercial species of beche-de-mer. A representative series of these holothurians was collected and contributed to the British (Natural History) Museum. The commercial species of beche-de-mer were listed as:

<u>Actinopyga echinites</u>	<u>A. mauritania</u>
<u>A. lecanora</u>	<u>A. polymorpha</u>
<u>Holothuria argus</u>	<u>H. impatiens</u>
<u>H. atra</u>	<u>H. mammiifera</u>
<u>H. botellus</u>	<u>H. marmorata</u>
<u>H. coluber</u>	<u>H. sanguinolenta</u>
<u>H. edulis</u>	<u>H. vagabunda</u>
<u>H. fusco-cinerea</u>	<u>H. vitiensis</u>
<u>Stichopus chloronotus</u>	
<u>S. lutea</u>	
<u>S. variegatus</u>	

Endean (1957) listed Holothurida rigida as present at Green Island. One species of ophiuroid (Ophiocoma brevipes) and one species of echinoid (Cyrtechinus verruculatus) were also listed specifically for Green Island by Endean (1957).

Cornelius (1982) gave a species list for the echinoderms of Green Island reef, provided by either the Queensland Fisheries Service or the Queensland National Parks and Wildlife Service (source not specified), but warned that it was not for publication as 'much of the Service's survey information is unpublished by those people currently working on projects in the area'.

McCormick and Choat (1989) surveyed the abundance of certain genera of sea urchins (Diadema spp. and Echinothrix spp.) on bommies within and outside the Green Island seagrass beds [Fig.3.1] in May 1988 and April 1989. Three 10m x 4m strip transects were searched in detail on five bommies at each site. Highest densities of Diadema spp. were located on the westernmost bommies surveyed within the seagrass beds, bommies around which were the most clearly defined bare sand 'halos'.

MOLLUSCS

The prosobranch gastropod Trochus niloticus was studied at Green Island in 1984 by Nash (1985). Trochus shells formed the basis for a small export trade with European and Asian mother-of-pearl industries, but there has been no Trochus fishing at Green Island since the reef was declared a Marine National Park, under Queensland legislation, in 1974. Nash (1985) surveyed the distribution of Trochus around Green Island reef using both line transect and fixed-time swim methods [Fig.4.1]. The highest stocks were found at 1m - 3m depth along the south-western reef edge. Further studies were made of Trochus growth rates, spawning, morphometrics and predation, both in the field and under laboratory conditions at the Queensland Department of Primary Industries' Field Station.

The presence of the corallivorous gastropod Drupella was noted by Fisk (1990b) during a survey of juvenile crown-of-thorns starfish in November 1989. Drupella were found on live coral colonies and in the rubble at 12 of the 20 sites surveyed, with their abundance and wide distribution considered a 'significant finding'. It was noted that most feeding scars on the live corals were the result of Drupella feeding activity. While individuals were not counted, approximate numbers of groups of the gastropods or patches of feeding scars were recorded (Fisk, 1990b). These data are unpublished at present.

A list of some of the other molluscs of Green Island reef - from Blakey (1980) and Collins (1984, 1985a,b; 1986, 1987, 1988a,b,c; 1989) - are included in Appendix 4.

OTHER INVERTEBRATES

Records of many planktonic invertebrates, mainly cnidarians, observed by Dr J. Barnes in Green Island waters have been transcribed from his original notes by B. Kinsey (Sir George Fisher Centre, James Cook University of North Queensland).

Cannon *et al.* (1983) provide species lists of the benthic poriferans, cnidarians, molluscs, crustaceans and echinoderms netted during surveys of inter-reefal stations in the vicinity of Green Island reef in February 1987, October/November 1979 and October 1980. These surveys were made at water depths between 30m and 55m, and many of the stations were a considerable distance from the reef itself.