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General Introduction to the Research at Dampier

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The Dampier Archipelago

My research area is Dampier Island on the coast of Western Australia, 8 km southwest of the township of Dampier built in 1965. It is part of the Dampier archipelago, and is also known as 'Dampier Peninsula' or 'Burrup Peninsula' (Fig. 1.1). Dampier Island is the largest island in the Dampier archipelago; it is a rugged, hilly and rocky stretch of land. The northern part faces the open sea and East Middle and West Middle Intercourse islands. The southern part is orientated towards the wide mudflats of Fenner Creek, Click Creek and Lewis Creek. In 1968, these mudflats were transformed into solar salt fields by the Dampier Salt Company. Today causeways cross these salt fields to link Dampier Island to the mainland. Most of Dampier Island is surrounded by a narrow belt of mangroves.

Four geographical-geological provinces are evident in the Dampier region:

1 To the south, the rough granitic edge of the continent borders a swampy depression;
2 The marshy depression (20 × 7 km) occupied by mangrove and Fenner Creek mud flat in the centre. These stretches of mud flats are uncovered at low tide (once they were areas where turtles laid their eggs);
3 The rocky spine of Dampier Island (20 × 4 km), where the two valleys studied are located, is formed of chains of rocky hills. These hills provide a dark brown panorama with contrasting areas of spinifex and sparse stands of eucalyptus (*Eucalyptus patillaris*) bordering the streams; there is a variety of shrubs and a spinifex-like grass (*Trioda pungens*) that provided an occasional food source. In historical times, the inhabitants of this area collected and ground its seeds to make damper (a traditional Australian bread baked in the coals of a campfire). The rocky areas are formed of Archaean Age intrusive materials, mainly gabbro and granophyre. Both are hard rocks, often convenient for stone knapping (especially the granophyre), and they weather to a dull red; when freshly exposed their surfaces are nearly white. Despite the hardness of the rock, this remarkable visual contrast has been used to produce petroglyphs. We will see further, however, that gabbro and granophyre—at the various sites—offered very different conditions to the carvers; and
4 To the northwest, the archipelago extends to many large rocky basaltic islands.

Archaeological sites are numerous in the four regions because the variety of the natural environments provided a great diversity of food resources; it is likely that the presence of dark rocks available for making petroglyphs made this area even more attractive. On Dampier Island, petroglyphs line the more than 20 km of its rock shoreline. Their number may exceed 100 000. There is a close association between potable water sources and groups of carvings. There are also middens containing a variety of shellfish along with various other archaeological sites including stone tools quarries. Everywhere, shell middens associated with petroglyphs are scattered along the coast and in small adjacent valleys.

The availability of drinking water raises an important issue since the region receives only 200–300 mm of rain each year, almost exclusively from cyclonic rains in summer (November–March), and winter is particularly dry. Summer temperatures can reach 50°C.