

16. GEOGRAPHY AND ECOLOGY OF REMIRE

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Introduction

Remire or Eagle Island is a small oval-shaped island, 0.8 km in diameter and with an area of 80 hectares. It stands at the south end of a long north-south trending reef, but is detached from it. Remire itself stands on a small reef flat which extends from the shore for 140-370 m on the northwest and southeast sides (Figure 8). Surrounding water depths are generally less than 35 m (Baker 1963, 51-54).

The island is mainly sandy, with littoral beachrock on the south and east shores. Much of the interior, however, has been converted into a phosphatic rock, with horizontal pitted and irregular surface, covered with loose cobble-size fragments. This plate of phosphate rock, at least 1.5 m thick, outcrops at the southeast corner to form a steep cliff 3-4 m high on the shore. The phosphate surface is rather higher than that of unconsolidated sand, but it has been much modified by mining. Braithwaite (1968) has discussed the formation of the phosphate rock. Piggott (1968, 60-61) distinguishes the soil of the phosphate areas as Jemo Series.

As in the case of Desroches, Remire was briefly visited by the Alert and Percy Sladen Expeditions in 1882 and 1905. Table 17 lists other scientific visitors. The following account is based on a short visit on 26 September 1968.

Vegetation

The vegetation of Remire has changed considerably since it was first discovered. Horsburgh (1852, 182) referred to it as "covered with shrubs" and Coppinger (1883, 220) as "covered with a thick growth of stunted bushes". Gardiner and Cooper (1907, 157) stated that "there are as yet no high trees and the shrubs are as small and stunted as at Cargados. A few coconuts have been planted to the north in the last ten years. But it is only recently that the last of the guano has been removed and the island let for cultivation. A clump of screw-pines (Pandanus Balfouri) in the centre of the island was an unusual feature".

The island is now covered with a dense coconut-dominated woodland on the sand areas, and a more open vegetation, with trees but without

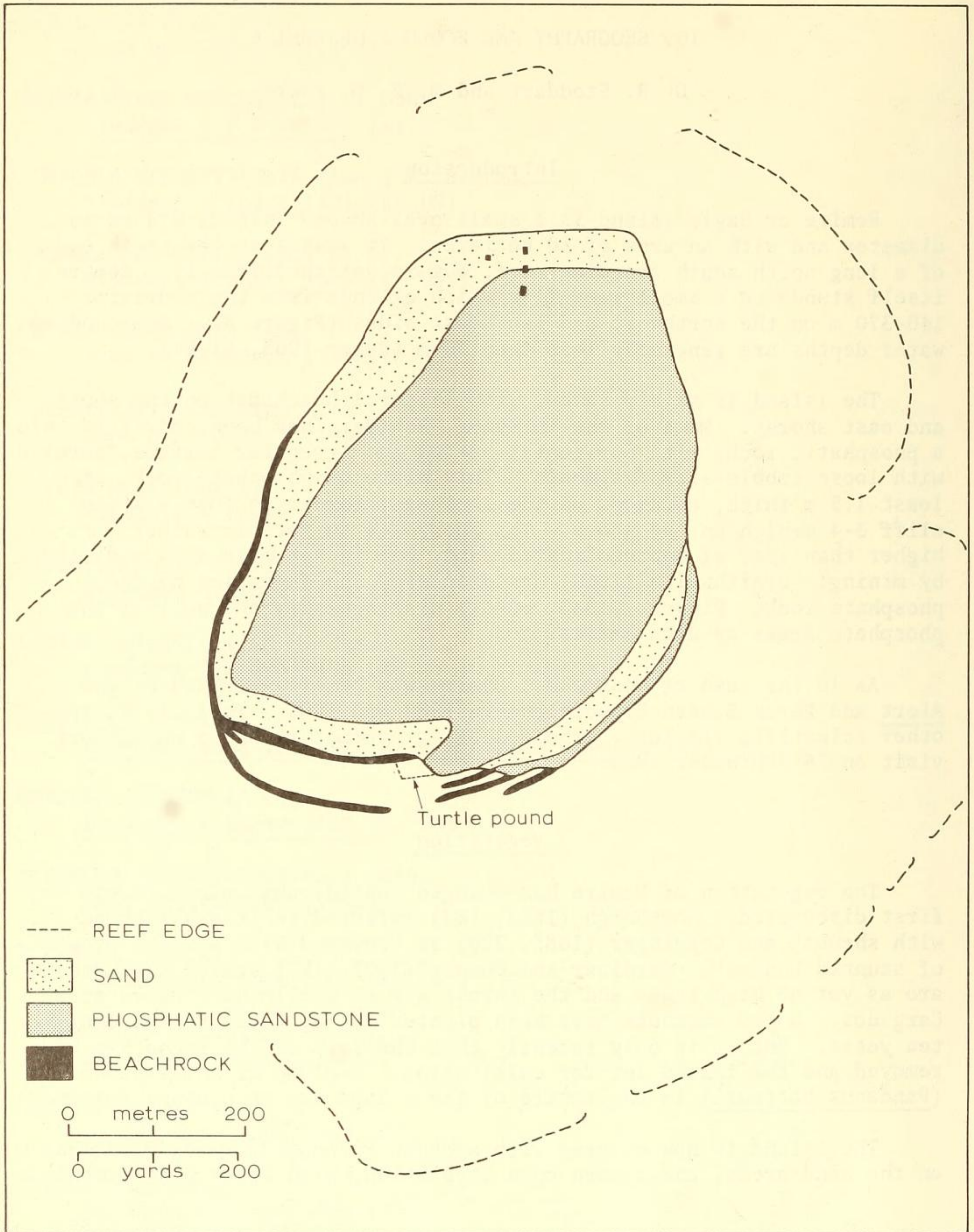


Fig. 8. Remire (after Baker 1963, Fig. 10)

Table 17. Scientific studies at Remire

<u>Date</u>	<u>Study</u>	<u>Reference</u>
1770	Explored by Du Roslan	
1771	Explored by M. de la Biollière, in the <u>Eagle</u>	Horsburgh (1852)
1882 March 19-20	H.M.S. <u>Alert</u> , R. W. Coppinger: general observations, bird collecting; Hydrographic survey by Capt. J. P. Maclear	Coppinger (1883), Coppinger et al. (1884), Admiralty Chart 724
1901	Visit by G. Naylor for Baty, Bergne and Co.	Bergne (1900)
1905 Oct. 17	Percy Sladen Expedition, H.M.S. <u>Sealark</u> : J. S. Gardiner, land collections, mainly insects	Gardiner and Cooper (1907), Gardiner (1936)
1955 July 5, Aug. 16	Viscount Ridley, Lord Richard Percy: birds	Ridley and Percy (1958)
1960 Nov. 2	B. H. Baker, C. J. Piggott: geology, soils	Baker (1963), Piggott (1961, 66-67; 1968, 60-61)
1965	C. J. R. Braithwaite, B. R. Rosen: geology of phosphate deposits, modern corals	Braithwaite (1968)
1967 Sept. 21-22	M. D. Gwynne, D. Wood, I. S. C. Parker: plants, birds	Parker (1970), Gwynne and Wood (1969)
1968 Sept. 26	M. E. D. Poore, D. R. Stoddart: plants, general observations	This report; Fosberg and Renvoize (1970)

coconuts, on the phosphate areas. A third vegetation type consists of a littoral hedge surrounding the island, dominated by Scaevola taccada, with Suriana maritima and Tournefortia argentea, with trees on its inner edge of Cordia subcordata and Guettarda speciosa.

The coconut woodland includes much Casuarina equisetifolia, and occasional Ficus nautarum, Thespesia populneoides, Terminalia catappa and other trees. The settlement area on the west coast is surrounded by a row, clearly planted, of tall Ochrosia oppositifolia, and at the settlement there are tall trees of Hernandia sonora and Calophyllum inophyllum. The ground layer in the coconut woodland consists of the following common species: together with grasses (Cenchrus echinatus, Stenotaphrum micranthum) and sedges (Cyperus dubius),

Acalypha indica
Achyranthes aspera
Boerhavia repens
Bidens pilosa
Cassia occidentalis
Cassytha filiformis
Cleome viscosa

Euphorbia hirta
Lippia nodiflora
Phyllanthus maderaspatensis
Sida parvifolia
Solanum nigrum
Stachytarpheta jamaicensis
Turnera ulmifolia

The vegetation of the phosphate area is highly variable. Two tree-dominated communities can be distinguished: one with a dense growth of Leucaena leucocephala about 5 m tall, the other a more open community of Carica papaya with a ground cover on a very irregular surface of Ipomoea pes-caprae and subsidiary Boerhavia repens, Bidens pilosa and Stenotaphrum micranthum. On the east side of the island, trees on the phosphate are rare, and much of the irregular surface is again covered with a thick mat of Ipomoea pes-caprae. Where the surface is smooth, probably because of superficial quarrying, the dominance of Ipomoea is reduced and other species, such as Tridax procumbens and Cyperus ligularis, appear. Weeds on this treeless phosphate are common along paths, where they include Eragrostis sp., Dactyloctenium aegyptium, Stachytarpheta jamaicensis, Cassytha filiformis and Portulaca oleracea.

The settlement has a number of decoratives (Catharanthus roseus, Datura metel) and other cultivated plants (Moringa oleifera, Capsicum frutescens, Agave, Carica papaya, a large cucurbit).

The contrast between the present wooded island and that described before 1905 is striking. Remire is at present uninhabited, no clearing of ground vegetation takes place, and the growth in many places is very dense.

Fauna other than Birds

The Alert expedition made small collections, mostly of marine fauna, including 9 species of marine molluscs (Smith 1884), one sponge (Ridley 1884), and either 1 or 6 (location uncertain) crabs (Miers 1884). Coppinger (1883) recorded a Coenobita as being particularly common. The Percy Sladen Expedition made almost no collections of marine fauna and flora in 1905. Both the Alert and the Percy Sladen collected a single gecko Hemidactylus frenatus (Gunther 1884, Boulenger 1909). Ridley and Percy (1958, 43) record in addition Mabuia sechellensis. No lizards were seen in 1968. Some 35 species of insects were recorded by the Percy Sladen team, in addition to three beetles collected by Coppinger (Waterhouse 1884): the references to the Percy Sladen insects are tabulated in Table 18.

Birds

The bird fauna of Remire shows interesting contrasts with that of the neighbouring larger island of Desroches. Neither has any native land birds, though more have been introduced to the larger island. Few migrants have been recorded on either island, though this largely reflects lack of observation. Remire has a much more diverse sea bird fauna, dominated by terns, especially Sterna fuscata, Gygis alba and Anous tenuirostris. The island was probably a more important sea bird breeding ground in the past, before mining began, and sea bird populations

Table 18. Insects recorded from Remire
by the Percy Sladen Expedition

<u>Group</u>	<u>Number of species</u>	<u>Reference</u>
Orthoptera	5	Bolivar (1912, 1924)
Dermoptera	1	Burr (1910)
Hemiptera	2	Green (1907), Distant (1909)
Lepidoptera	8	Fletcher (1910)
Coleoptera	15	Aurivillius (1922), Champion (1914), Gebien (1922), Schenkling (1922), Scott (1912, 1917, 1926), Fleutiaux (1923)
Hymenoptera	3	Cameron (1907), Forel (1907), Meade-Waldo (1912)
Diptera	3	Lamb (1912, 1914, 1922)

may have affected the vegetation and restricted it to shrubs. Ridley and Percy (1958) considered the Sooty Tern population to be in danger of extinction, and pointed out that the export of eggs had declined from 300 cases (210 000 eggs) in 1931 to 105 cases (73 500 eggs) in 1954. At the time of our visit there were no more than a few hundred terns, mainly in tall Casuarina on the southwest coast. The absence of boobies is striking.

Land birds

There are no native land birds on Remire. Four species of introduced land birds have been recorded from time to time:

Francolinus pondicerianus

Coppinger (1883, 220) found "a small red-legged partridge, which was very abundant, and afforded us some good shooting"; a specimen was collected (Bowdler-Sharpe 1884). Not recorded since.

Gallus gallus

Coppinger (1883, 220) noted domestic fowl gone wild, with chickens which "on being disturbed, rose and took to flight like pheasants". Not recorded since.

Cisticola cherina

A small active warbler, possibly this species, was seen in coastal Scaevola by Poore and Stoddart in 1968. It had the same metallic tic-tic-tic call as the Astove and Cosmoledo Cisticola. Not previously recorded.

Foudia madagascariensis

First recorded, ♂ collected, by Parker, 22 September 1967.

Shore birdsArdea cinerea

Three seen by Parker, 22 September 1967.

MigrantsSquatarola squatarola

Seen by Parker, 22 September 1967.

Charadrius leschenaultii

♀ collected by Parker, 22 September 1967.

Numenius phaeopus

Seen and recorded as common by Parker in 1967, seen by Poore and Stoddart in September 1968.

Arenaria interpres

Seen by Parker 22 September 1967.

Crocethia alba

Seen by Parker 22 September 1967.

Sea birdsPuffinus sp.

Coppinger (1883) recorded a "night petrel in burrows". There is no other record.

Phaethon lepturus

Four seen by Parker, 1967.

Fregata minor

"Frigate birds" common, roosting in coconuts (Ridley and Percy 1958, 18). Seen by Parker, 1967, and by Poore and Stoddart (probably this species) in September 1968.

Fregata ariel

Seen by Parker, September 1967.

Sterna anaethetus

♂ ♀♀♀ collected by Parker, 22 September 1967.

Sterna fuscata

Reported by Vesey-FitzGerald (1941) to breed, but population reduced and spasmodic. Ridley and Percy (1958) found 3200 pairs in two separate colonies and considered that the population could be in

danger of extinction because of excessive egg-collecting. ♂ collected by Parker, 22 September 1967. A few hundred seen by Poore and Stoddart, September 1968.

Thalasseus bergii

♂♂♀ collected by Parker, 22 September 1967, who saw about 200. seen also by Poore and Stoddart in September 1968.

Anous stolidus

♂ ♀♀ collected by Parker, 22 September 1967, and seen by Poore and Stoddart in September 1968.

Anous tenuirostris

8 ♀♀ collected by Parker on 22 September 1967. Parker reported it to be by far the most common bird on Remire, though he did not see it on the other islands he visited (these did not include African Banks). Seen also by Poore and Stoddart in September 1968.

Gygis alba

Found nesting by Vesey-FitzGerald (1941). Noted as "very common" by Parker, who collected ♂ ♀♀ on 22 September 1967. Seen by Poore and Stoddart in September 1968.

More species of shore birds, migrants and sea birds will probably be recorded, in view of the list for the Amirantes in Watson et al. (1963, 179-182).

History and Settlement

Remire was still apparently uninhabited in 1882, though discovered in 1770. Coppinger (1883), however, reports finding the ruins of a solidly built stone house in the centre of the island. Guano-mining was carried on for some years after Coppinger's visit, and was extensive in 1900 when visited by H. A'C. Bergne. Huts and a shed were built during this period (Bergne 1900). Mining was reported to be complete by 1905, according to Gardiner and Cooper (1907). The island has been visited regularly during this century for birds' eggs, but it is not known how continuous human settlement has been. In 1898 about one third of the island had been planted with about 1750 coconuts, which were doing well, together with maize and pumpkins (Bergne 1900). Messrs Baty, Bergne and Co. held the lease of Remire until 1926. In 1901 there were guano sheds and a tramway for the export of guano, and other installations included an iron house, a boat house, a store and other sheds. Of these there is now no trace. In the last few years, while the lease was held for a period by R. M. Veevers-Carter, several new buildings were erected, including a large house in Moorish style, reservoir, copra drier, and turtle pen; but when Mr Veevers-Carter moved to Astove the Seychelles Development Corporation employed only a caretaker on Remire, which was uninhabited in September 1968.

Rats have been introduced, but apart from the birds we saw no other exotic animals in 1968.

Remire has been administered as a dependency of Seychelles since 1903, and was not included in the British Indian Ocean Territory in 1965.

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