

THE RAFOS EXPEDITION TO ASCENSION ISLAND 1987

Mike Blair

Introduction

A team of eight RAFOS members took part in an expedition to Ascension Island in the period 9-25 February 1987. The island lies approximately 7.5 deg south of the Equator and 14.25 deg west of the Greenwich meridian. The nearest land is St. Helena, 1100km south east. Nigeria lies 1460km north and the Congo and Brazil are approximately equidistant to the east and west respectively at approximately 1750km. The International Council for Bird Preservation (ICBP) has expressed considerable interest in the status of the endemic Ascension Frigatebird (*Fregata aquila*).

Aims

The aims of the expedition were:

- To assess any impact on the birds due to military activities.
- To census and map the distribution of Ascension birds as far as was possible in two weeks.
- To make recommendations on aspects meriting further study.

Description of Ascension

Ascension is a volcanic island of recent origin, geologically speaking. It is roughly triangular in section and extremely rugged in terrain. The only landing place is at the pier at Georgetown on the west coast. Packer's documentation research indicates that vast colonies of seabirds, perhaps 40 million birds in all, inhabited Ascension up to the beginning of the 19th century, but introduced cats had all but wiped them out by 1860. The BOU Expedition of 1957/8 had confirmed that the population of sedentary seabirds on Ascension itself was miniscule except perhaps on inaccessible cliffs, but that the small islet of Boatswainbird Island, near the easternmost tip of Ascension, was still densely populated.

A large part of Ascension is bare lava or ashcone. The lava is razor sharp and its topography is irregular and jumbled, making the crossing of it difficult and exhausting. The ash when loose is treacherous, and when impacted provides a foothold for Prickly Pear, (*Opuntia vulgaris*). Many paths are dangerous and are out of bounds. Rainfall is low, irregular and unreliable. At present, rainfall over the past few years has generally been greater than for the previous 20 years or so. There is no permanent lying water, yet the sheep and donkeys seem healthy enough, but their grazing probably serves to restrict ground cover up to the altitude where cloud moisture and rain can provide sufficient growth to withstand their depredations. Green Mountain has more or less permanent cover all round above 1500 feet, and lower down on the south-east slopes which face the prevailing wind. The vegetation extends at present down to 1000 ft. The Administrator's residence, on the North Slope at 1700 ft is said to have the finest year-round climate anywhere on earth.

The trees on the high ground are all introduced species. Hill Bamboo forms a plantation on the peak, 2817 ft, and elsewhere Juniper, Norfolk Island Pine and Bougainvillea thrive at somewhat lower altitudes. Grasses and scrub-like plants proliferate and provide ample cover for the Red-necked Francolin, (*Francolinus afer*), whose calls can be heard all over the middle slopes, but which is not easy to find. Many exotic plants such as Kalanchoe have found a niche, but the pre-settlement plants are becoming hard to find.

History and Ornithological Sites

Ascension, some 14km long and 11km wide, has been garrisoned, more or less continuously from Napoleonic times when the Emperor was imprisoned on St. Helena. It has no indigenous population, everyone being employed to work there. The small settlement at Georgetown huddles around the only safe landing point, but there are times when the prevailing swell from the south-east is so powerful that even the pier at Georgetown is unusable. Settlement has produced a small amount of cover for birds through gardens, but cover is a commodity in short supply at low altitude. The westernmost point is Catherine Point, where vagrant waders tend to turn up. The bay in the north, English Bay, is the rest and recreation centre for the British Forces -a couple of air-conditioned huts and some rough-hewn picnic sites. However, in 1987 the most northerly point was the ideal place for a sea-watch, the streams of Boobies, (*Sula spp*), coming up the north east coast and heading north west, and the Sooty Terns, (*Sterna fuscata*), coming up the north west coast and continuing largely on a north easterly heading.

The large rounded lump forming the eastern end of Ascension is a flat-topped volcanic core, called Letterbox, whose sides fall sheer several hundred feet into the ocean, offering some protection to the small

island some 300 yards to the north, Boatswainbird Island, which is home to nearly all of the seabirds of Ascension, except for the Sooty Terns. It is plain, even from the remnants of the guano deposits on the main island of Ascension, that comparatively recently, large numbers of seabirds bred there. The coming of man, introducing mice, rats, and cats has led to their extermination from all but the most inaccessible of sites. Boatswainbird Island, therefore, at 300m long, 100m high and very steep sided and being the home of the Ascension Frigatebird, is very important to the survival of that species whose population may be the maximum that can be sustained on such a small area. The Boatswainbird is now rather more prosaically called the Tropic bird, but the Island's name remains as it was.

The other important ornithological area, called the Wideawake Fairs lies to the south-east of the runway, from Mars Bay in the southernmost corner to a point some 4km east. In this vast area of jumbled lava rocks, boulders and rough sand, the Sooty Terns descend at roughly 10 monthly intervals for about 3 months, after which the site becomes totally deserted. It is argued that because the Sooty Terns are absent the predatory cat population cannot be sustained above a minimum figure and so the terns can sustain severe losses. Worldwide the Sooty Tern breeds at 5 to 7 years of age, and usually in an annual cycle, but it is not known whether on Ascension, breeding is regulated by the same mechanism, or whether the number of breeding cycles is the regulator. What is known is that the Ascension immatures, although dispersing widely, as do other populations, return at the right time to breed.

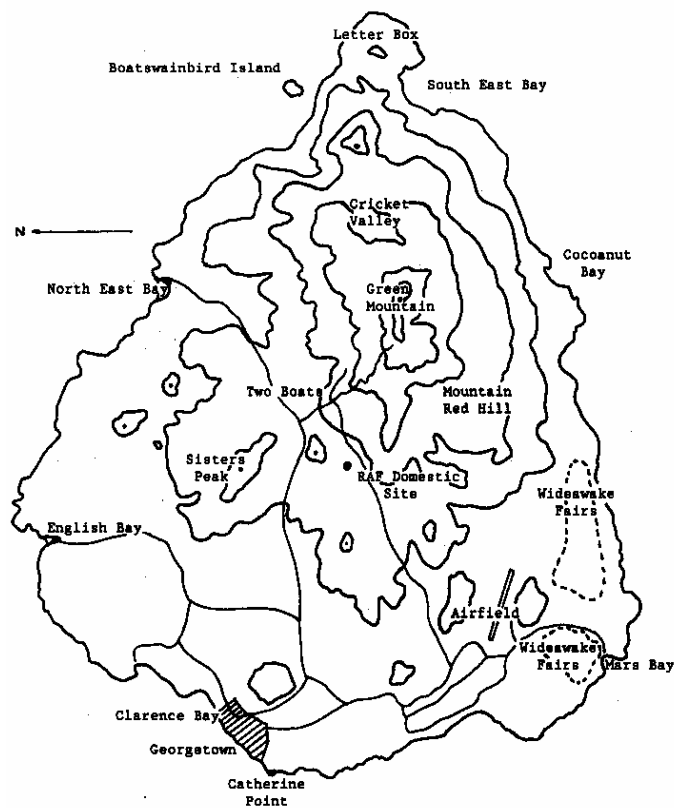


Figure 1: Ascension Island

Methods of Observation

The duration of the expedition of 2 weeks meant that data obtained would be general rather than specific, so to census and map to any effect, a number of principles were adopted. Firstly, the 1 km grid of the best maps to hand would be used as the basis. The vertical axis was identified downward from A to M, omitting I, and the horizontal axis was numbered from 0 to 14. This matrix covered all areas of land, and gave each 1 km square a unique identity. Each 1 km square visited, or transited in daylight, was checked carefully for obvious signs of birdlife, and the species and numbers were recorded and were collated each day. In order to attempt any census work, those squares containing large numbers of roosting or breeding birds would have to be examined in greater detail. These two requirements clearly were not totally compatible, so on the 1987 expedition, some of the more inaccessible and barren squares which lacked ground cover for land birds and showed no signs of seabird activity when viewed through a telescope, were not visited, but sufficient squares of this type were covered to give us confidence that our results would be reasonably representative. Boat journeys from Georgetown to Boatswainbird Island, had for safety reasons, to go north about, so stacks and cliffs inshore from the route could be observed in passing. Any hidden colonies on the

south coast have therefore largely been overlooked, although a visit to Coconut Bay, halfway along the south coast, found but small numbers.

Some 75% of the 1 km squares were visited. Two trips were made to Boatswainbird Island, although it was possible to land on only one occasion. One visit was made to the anchored transfer-tanker, Maersk Ascension, for an extended sea watch. A number of land-based sea watches were carried out from a variety of locations along the coast.

Other Wildlife

One long-standing inhabitant of Ascension is the Green Turtle, (*Chelonia mydas*), whose laying season it was. Each year they swim from Brazil to Ascension, mate offshore and then the females come ashore. They are very wary and will dash back to the water on the slightest disturbance, but once laying has started, will continue even if disturbed. Needless to say, great care was taken not to disturb the turtles as they came ashore.

Opportunistic collecting of insects was undertaken on behalf of Norwich Castle Museum, but government cut-backs have prevented any work being undertaken on the specimens. There are populations of feral sheep, donkeys and rabbits. Apart from a lizard and a gecko, the only other vertebrates are cats, rats and mice. The intertidal zone is only a matter of a few feet in extent, so although crabs and fish abound in the rock-pools, the ecological chain tends to stop there, no gulls being found. A land-crab, which is largely nocturnal, is present in great numbers. Some details are given in a separate report.

General Bird Report

Even counting vagrants, there are very few species on Ascension, so the Systematic List takes the form of Sighting Distribution Maps with specific comment for each species. However a number of general points are discussed below.

Flyways and Feeding Grounds

It quickly became apparent that in 1987 two main flyways were in use and are shown on Map 1. Every day, around dawn, Boobies left Boatswainbird Island, flew along the north-east coast and headed out to sea continuing their north-west course, and returned an hour before dark. Sooty Terns, from their colonies on the Wideawake Fairs, flew north along the west coast then headed north-east but mainly before dawn, and returned before dark. There was no evidence whether the out and back trip was achieved in one day or two, but the feeding grounds were out of sight of Ascension, and were in different areas for the Boobies and Sooty Terns. Individuals of these species could be seen hunting close to shore during the day, but in tiny numbers compared to those using the flyways. Noddies were never seen leaving in daylight in any numbers, but were twice observed returning by moonlight in their hundreds, from a direction between the other two. The Noddies tended to use the Booby flyway when near Ascension.

As a working hypothesis, the food each species sought was probably different from that of the others, and was obtained in different areas, possibly 150km or more away from Ascension. The deep ocean is somewhat impoverished compared with continental shelves or much colder waters, but where colder water masses meet warmer masses, greater numbers of fish can be found feeding at the narrow band of rich pickings at the isocline. In years when the isocline retreats north, food is scarce and few young are raised. Presumably, the direction of the flyways once the birds leave Ascension on their foraging trip is therefore not always constant each year. It was noticeable that all of the few Sooty Terns encountered on the north-east coast were flying in an anti-clockwise direction.

Ascension Frigatebird

It is a characteristic of a number of Frigatebird species that adults and juveniles are great wanderers, so one team member, G Etherington, using Harrison and other sources, prepared an extensive key to the variations and markings of juveniles, morphs and sub-adults of the various species which might be encountered. The whole range of Ascension Frigatebird variants was seen and quickly became familiar. Had a stranger been present among the Frigatebirds seen, it would have been noted. Relatively little predation was seen, most Frigatebirds seen feeding were scavenging.

Predation

Predation took a number of forms:

By Frigatebirds: From the number of nestlings seen on Boatswainbird Island, clearly the Frigatebirds needed to obtain food for more than their individual needs, but although some returning Boobies were harassed it was not a case of several hundred Frigatebirds pursuing one victim each, rather one would descend from the stack of dozens hanging over Boatswainbird Island and select a victim. Instantly, two or three more would then chase the same victim. When the pursued bird regurgitated, the small group would squabble over the food.

Similarly, the Frigatebirds staking out the Sooty Tern colony would often seem to ignore chicks moving about, and when they did select a chick, they often did not press home the attack, or would miss the chick, and not return to the attack. Even when a chick was taken, other Frigatebirds would then close in on the attacker, and stop hunting. Often the chick was dropped, caught, dropped again, and missed and then just left. Only once was a chick seen to be eaten. The Terns were vigorous in their pursuit of Frigatebirds during an attack, but not afterwards.

By Cats: At the edge of the Sooty Tern colony, predation by cats had been quite heavy, pairs of wings being scattered about at the edge. Sooty Tern alarm at Frigatebirds was low key, except during an attack. When humans appeared, sentry-go individuals would call continuously, even if a group took off they quickly returned. On the other hand, the appearance of a cat, or anything that looked like a cat, such as a microphone muff, produced a very fierce reaction that was maintained. Although the general principle put forward by Stonehouse in 1958, that the absence of Sooty Terns for 7 months of the 10 month cycle kept the cat population down to a level where damage was sustainable, still holds, it remains to be seen whether the increase in building and population since the Falklands war has produced an adjacent habitat which will sustain a larger cat population locally. The Administrator felt that the Sooty Tern population had dropped over the last few years, but admitted that the Wideawake Fairs were so vast that the Tern's annual change to different sites within the Fairs made it difficult to confirm that belief. The remains of several roosting birds were found on cliff ledges near Boatswainbird Island, an almost inevitable fate for any bird pushed by population pressure to seek new roosts.

By Skua Sp: One of the large *Catharacta* pair seen off English Bay pursued a Sooty Tern, forcing it to drop its catch. Noddies and White Terns were not seen to suffer predation. Noddies, being able to regurgitate, could be attractive targets for Frigatebirds.

Noddy Behaviour

On two occasions, particularly when the expedition carried out a sea watch from the Maersk Ascension as the sun set and the moon rose, hundreds of Noddies could be seen against the light reflecting off of the waves, flying low over the sea returning to their roosts and young. The birds were entirely in silhouette, but familiarity with their jizz made identification certain.

Flight Safety

Despite having a colony of 100,000 Sooty Terns at the end of the runway, there had been no bird strikes on take-off or landing. It was noticeable that although courting Sooty Terns could spiral up to several hundred feet, most birds flew directly from the rest site to the sea, not flying more than 30 feet above the ground, and returning the same way. The only record of a bird strike had been over the centre of the island with a White Tern, (*Gygis alba*), two years previously.

Disturbance by Human Activities

The Administrator strictly limits visits to Boatswainbird Island and requires residents not to disturb the Sooty Tern colonies or the turtles, and the Island Police have a remit to prevent disturbance. The RAF also seeks to prevent people wandering through colonies. The disturbance pattern by cats through the year on the Sooty Tern colonies may be becoming destabilized if the large human presence at the nearby airfield prevent a significant population crash of the area's cats by providing titbits or scavenging opportunities. Further study is needed. Other indirect disturbance, such as coastal floodlights confusing birds and turtles, and unchecked grazing by sheep and donkeys destroying natural cover are certainly occurring, but should be rectifiable. The spread of much natural vegetation is impaired, but pest species such as Prickly Pear (*Opuntia vulagris*) abound.

Question of Sub-species Status of the Red-necked Francolin

Careful descriptions were taken of the Red-necked Francolins seen, and were compared with descriptions and illustrations of the sub-species which inhabit Southern Africa. The only sub-species which possesses a white supercillium and cheeks, and whose underbelly is pale or white with black streaks (all other sub-species considered have a dark underbelly with pale streaks) is *F.a.cunenensis*, from Northern Namibia, which is therefore a prime source of the introduction of this species to Ascension. In the literature searched, no mention of the Ascension sub-species has been found. Certainly ships sailed north in trade from the Cunene River in the mid 19th century. It would be useful to know if any were accustomed to call at St Helena and Ascension from the Cunene River, perhaps en-route from the Cape of Good Hope.

Ascension -The Future

Whatever the future military involvement in Ascension, there remain the communication facilities, and there can be no improvement in the bird's circumstances without elimination of the cats. It would be a formidable task, a combination of trapping, reduction of the birthrate by contraceptive-laced meat bait feeding, and unrelenting willpower, because the rugged and broken nature of the terrain provides countless hiding holes. The endemic Ascension Frigatebird will remain vulnerable unless it can re-colonise the main island. Certainly if the Letterbox peninsular near Boatswainbird Island were fenced off, and if the cats inside were eliminated, re-colonisation could be induced. However, it would be an expensive exercise in logistics in getting the material to Ascension and carried on to the site where no roads exist. There is no middle road if the situation is to be improved.

Future Expeditions

Future expeditions have many possible themes to pursue, such as the search of the fumaroles for more bones of the extinct Ascension Rail, (*Atlantisia elpenor*) further studies of Sooty Terns, Red-necked Francolin or of other specific land or seabird species and of Boatswainbird Island by telescope from the mainland. Study and ringing on Boatswainbird Island would be subject to permission from the Administrator and to the weather which can easily deny access for weeks at a time. Less practical would be the study of the southern and south-eastern cliffs and stacks due to lack of suitable vessels and to the stringency of the safety rules.

Conclusions

All the most likely areas holding birds, save for remote stacks and cliffs, were visited. Most seabird species could be counted accurately, reflecting the numbers there on the days of the counts, and these figures reflected no obvious cause for concern, the larger military presence having had no detectable short-term impact. Cats may become a worse problem to the Sooty Terns. The best that other seabird species can hope for is that there will be no change. Without the elimination of cats there will be no significant improvement, so the risk to the Ascension Frigatebird will remain. The four land bird species are thriving. Finally the expedition met its aims.

Acknowledgements

The expedition has much reason to be grateful for the assistance of many people whose efforts contributed to its success. Our particular thanks go to:

Dr W R P Bourne
Sqn Ldr G O'Toole, Mov 6A(RAF)
Wg Cdr R R C Parsley, Commander British Forces Ascension Island
Captain George Daykin, Captain of the Maersk Ascension
Mr Michael Blick, The Administrator, Ascension Island.

Expedition members

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Sqn Ldr M F Magee
Sgt D Bingham
Sgt A Roberts
Cpl K Heron
Cpl S Jones
Jnr Tech J Curtis
SAC G Etherington

References

Nomenclature of seabirds follows Harrison -"Seabirds, An Identification Guide. Revised edition, 1985".

Nomenclature of the resident land birds follows Newman -"Birds of Southern Africa, 1984".

Nomenclature of the vagrant waders follows Hayman, Marchant and Prater - "Shorebirds, 1986".

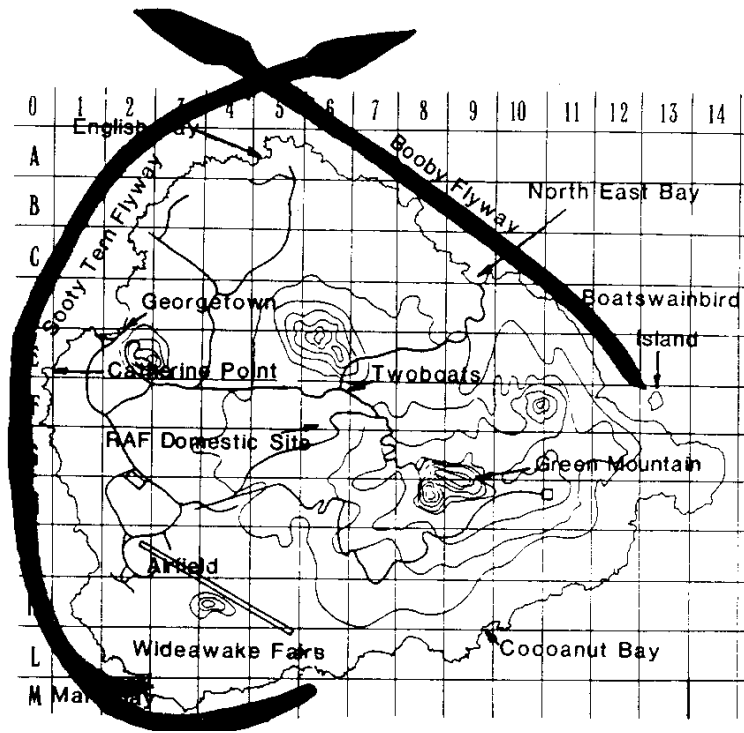
Howard and Moore -"A Complete Checklist of the Birds of the World, 1984", for subspecies range and identity.

Long- "Introduced Birds of the World, 1981".

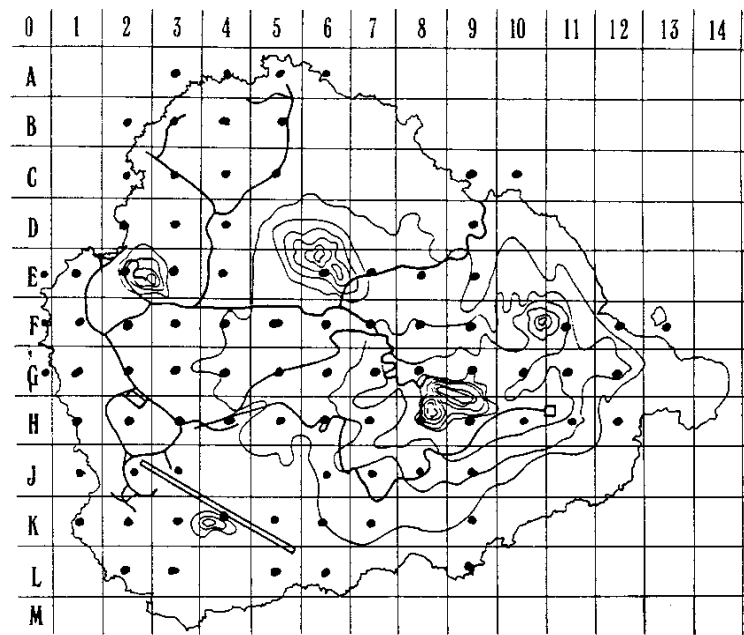
The privately prepared and well researched compilation by Packer - "A Concise Guide to Ascension Island".

Map Sequence and Systematic List

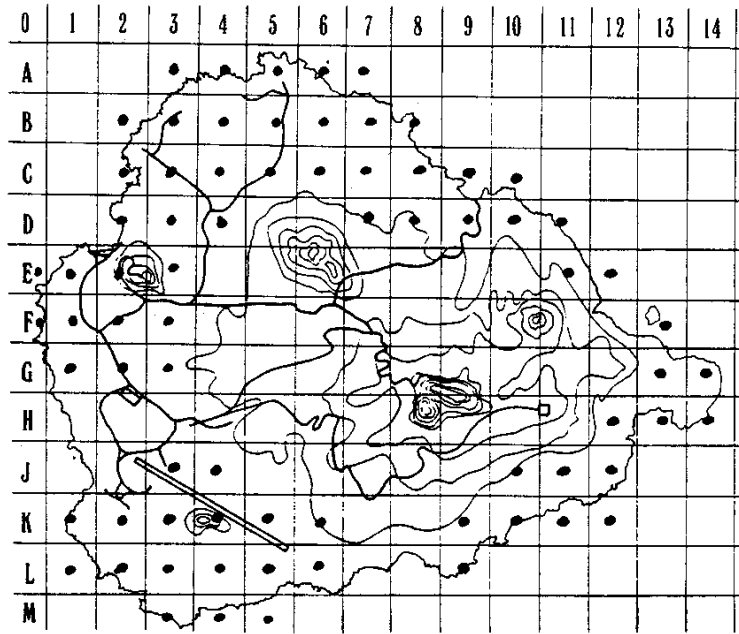
Map No.	Subject
1	Locations and Flyways
2	1 km Grid Squares Visited in 1987
3	Pre-settlement Breeding Areas
4	Distribution of Madeiran Storm-Petrel
5	Distribution of Red-billed Tropic bird
6	Distribution of White-tailed Tropic bird
7	Distribution of Masked Booby
8	Distribution of Red-footed Booby
9	Distribution of Brown Booby
10	Distribution of Ascension Frigatebird
11	Distribution of Red-necked Francolin
12	Sooty Tern Breeding Grounds
13	Distribution of Sooty Tern
14	Distribution of Brown Noddy
15	Distribution of Black Noddy
16	Distribution of White Tern
17	Distribution of Indian Mynah
18	Distribution of Common Wax bill
19	Distribution of Yellow Canary
20	Sightings of Vagrants



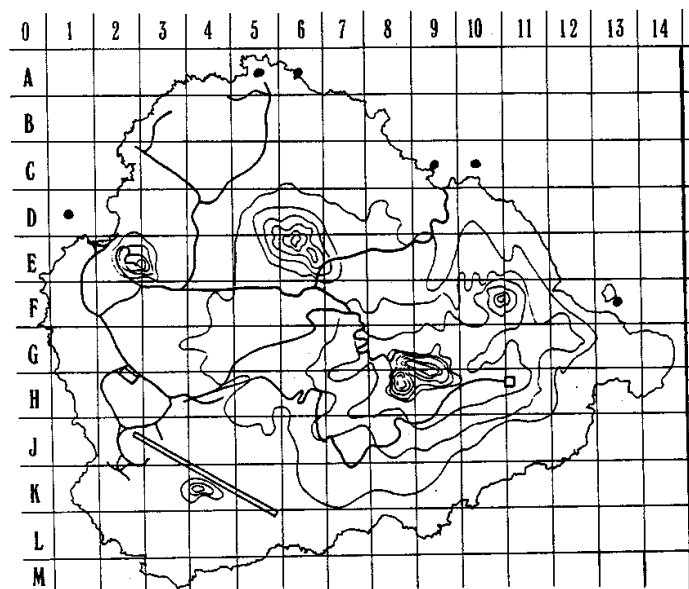
Map 1: Locations and Flyways



Map 2: Ascension 1Km grid showing squares visited in 1987 for obvious signs of birds

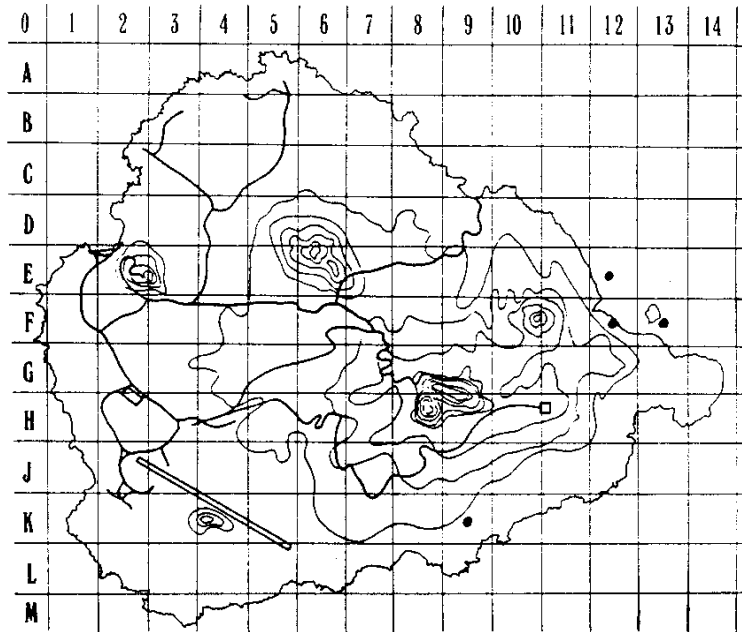


Map 3: Ascension Pre-settlement Seabird Breeding Areas



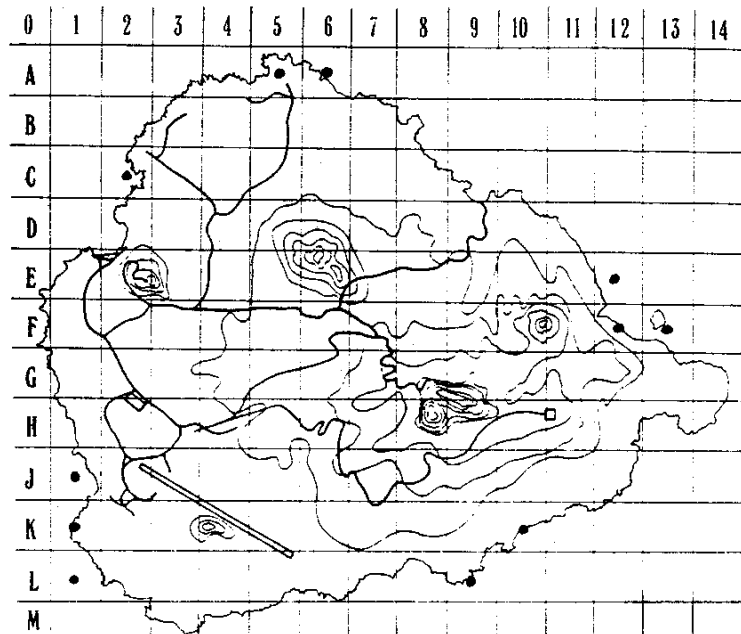
Map 4: Distribution of Maderian Storm-Petrel (*Oceanodroma castro*) sightings in 1987

A total of 12 birds were seen, all but one during sea watches. The exception was seen near to the top of Boatswainbird Island, as it flew from a tunnel. The nocturnal habits of this species made it unrealistic to count. Local residents had seen on occasion flocks of hundreds of petrels off Georgetown, so there is no evidence to discount Stonehouse's 1958 estimate of 200 on Boatswainbird Island. No other petrel or shearwater was seen. Subspecies *castro*.



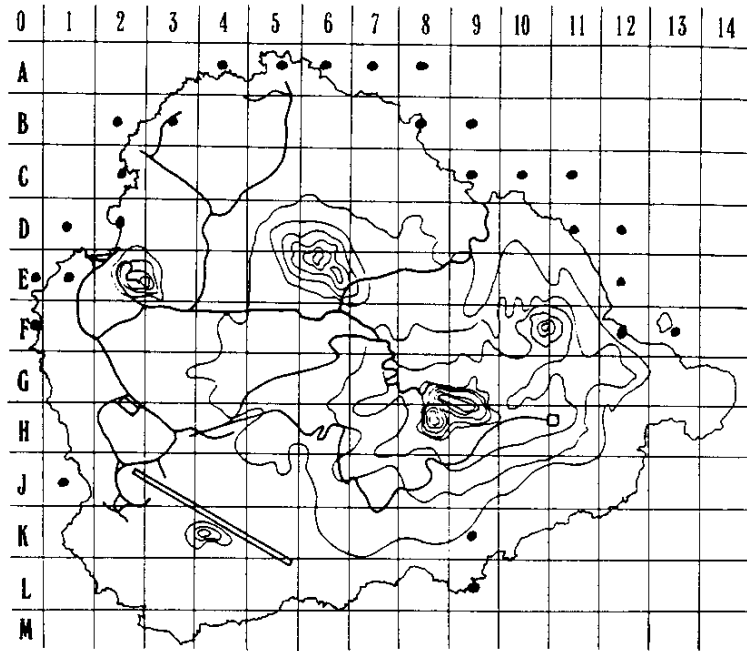
Map 5: Distribution of Red-tailed Tropicbird (*Pheathon aethureus*) sightings in 1987.

All but one were seen in the vicinity of BBI, the singleton noted in Cocanut Bay. No sightings on flyways. Birds sitting tight on BBI presumed to be breeding. A maximum of 26 accounted for on any one day, so total population is estimated at a little over 50. Systematic observations required. Isolated pairs may nest on tall stacks on the south coast or on cliffs. A single conformed juvenile observed. Subspecies *aethureus*.



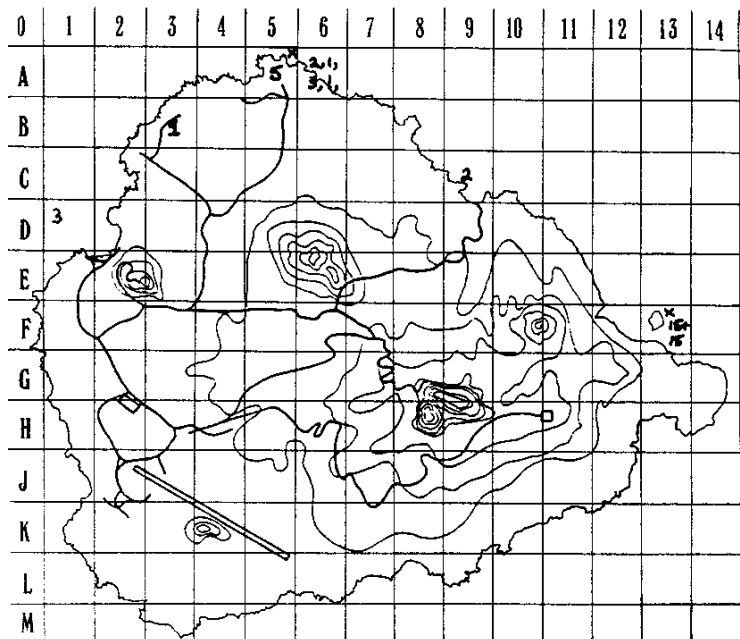
Map 6: Distribution of White-tailed Tropicbird (*Pheathon lepturus*) sightings in 1987

Seen in greater numbers and in far more locations than *Pheathon aethureus*, including both flyways, but by far the greatest concentration was in the vicinity of BBI, where it was nesting, although not in noticeably different area from the tight sitting *Pheathon aethureus*. However *Pheathon lepturus* had colonised another area of holes in the cliff face some 15m above the water. Population estimate in excess of 250. Probably nests on the south coast stacks. Juveniles observed. Subspecies *lepturus*, although a case has been argued for a separate identity as *ascensionis*.



Map 7: Distribution of masked Booby (*Sula dactylatra*) sightings in 1987

The commonest booby species, seen in many locations, but principally in the flyway to and from BBI after dawn and before dark. Breeding on the top of BBI alongside Ascension Frigatebird (*Fregata aquila*). Tended to use outer edge of flyway along north-east coast on return journey, although mixed lines of *Sula dactylatra* and *Sula leucogaster* were common. On outward journey, groups were smaller, more often in V formation than in lines and usually consisted of single species. Population estimate 8000. Although a few sub-adults, juveniles and a number of chicks in various stages of development were seen, eggs were not found, but probably under tight-sitting birds (see comments on predation observed). Subspecies *dactylatra*.

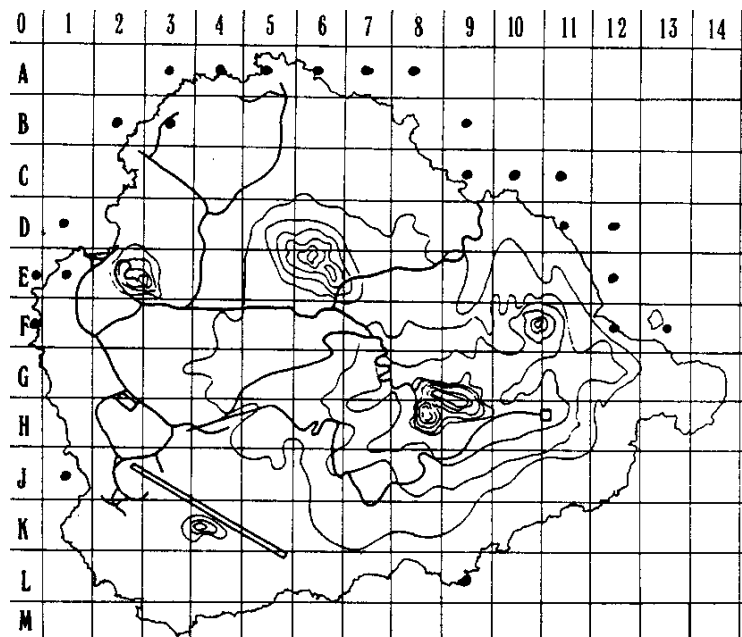


Map 8: Distribution of Red-footed Booby (*Sula sula*) sightings in 1987

N.B. * = singleton brown morphs, figures are totals seen on anyone day.

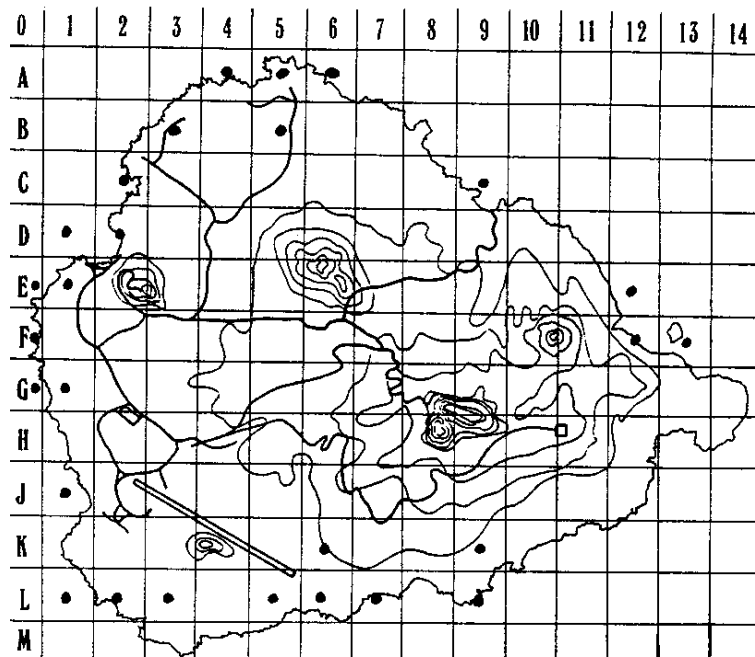
Very few seen, 15 being the maximum figure at BBI, but seen, usually as singletons on north and north-east coasts, close inshore. Two sightings of white-tailed brown morph. Of a group of three seen from the Maersk Ascension anchored off Clarence Bay, one could not be safely assigned a status as a brown morph or a juvenile. The feet could not be clearly seen. Similarly, a group of three down-covered birds sitting close to a group of *Sula sula* on the high vertical slabs of BBI could not be assigned a species identity from the bobbing boat. Certainly, examples of *S. leucogaster* else-where on the island in a similar pre-fledging state were quite similar.

Conclusion is that breeding is not proved. Movement timings largely indicated that individuals were associating with other booby species in their daily routine, (but see comment on location of feeding grounds). The group of three seen in late afternoon from the Maersk Ascension were travelling away from Ascension, and could have been exhibiting the known tendency of this species for nocturnal activity. Subspecies *sula*.



Map 9: Distribution of Brown Booby (*Sula leucoaaster*) sightings in 1987

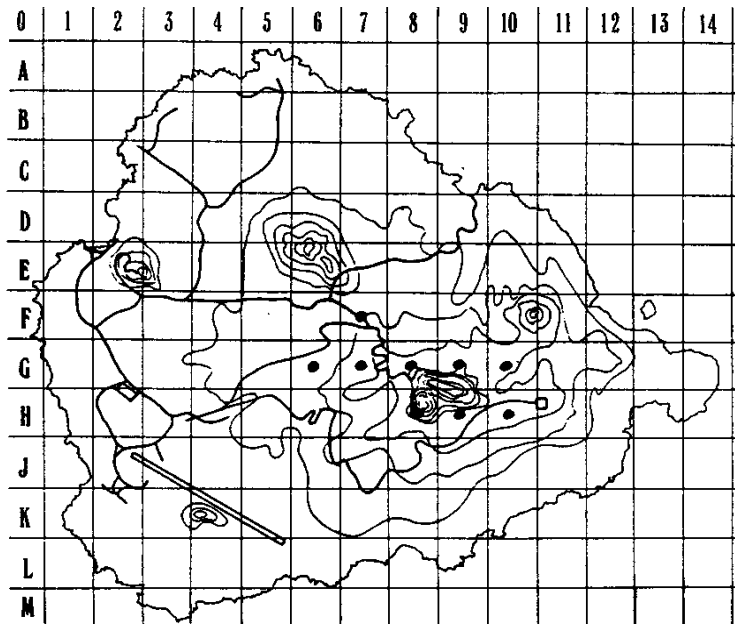
Commonly seen on the coast, but largely to the north and principally off the north-east coast down to BBI, where they had bred on the shoulder of the plateau and any suitably sized ledges, mostly on the inshore side. Tended to be closer inshore on the Booby flyway when returning, and mixed with *S. dactylatra* at mid-distance. On outward journey behaved as for *S. dactylatra*. Population estimate, under 2000. Subspecies *leucogaster*.



Map 10: Distribution of Ascension Frigatebird (*Fregata aquila*) sightings in 1987

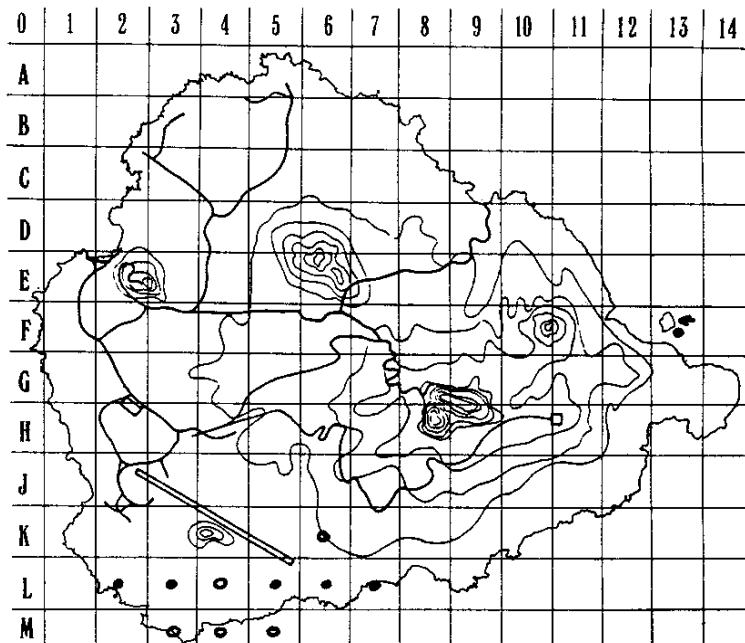
Although seen in greatest numbers at BBI, up to 30 could be found at anyone time over the Sooty Tern colonies, hanging in the wind at 200 feet upwards. The higher the bird, the nearer the sea, for no apparent reason. From time-to-time individual birds could be found up to 2km inland, but generally they patrolled in loose aggregates of 2 or 3 birds. All morphs and all stages of juvenile and adult plumages, as described by

Harrison, were seen. Parasitic behaviour was desultory, and often playful in manner. Sightings occurred at all points around the coast, most birds scavenging from the surface of the sea. Endemic to BBI, where all stages of breeding, from courtship to fledgling, were found. Population estimate, in excess of 1100 birds. (In 1988 the count was 1000 nests, 2500 birds).



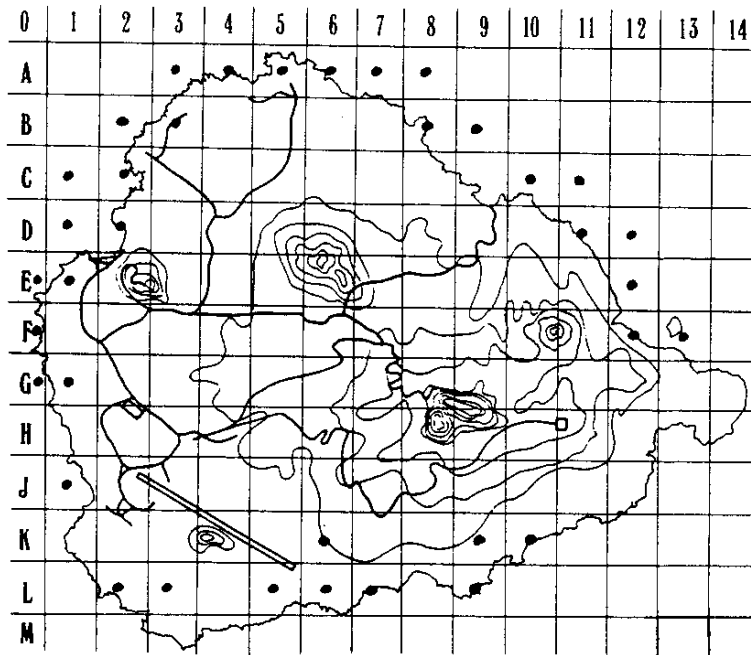
Map 11: Distribution of Red-necked Francolin (*Francolinus afer*) sightings in 1987

Often called Red-legged Partridge, for reasons of homesickness or approximation, the population has persisted on Green Mountain since it was introduced in 1851. Its call was frequently heard on Green Mountain. Lowest altitude at which it was heard was 1000 ft. Although the extent of ground cover is considerable, and the fact that the bird is generally skulking except at dawn, a number of sightings were made, and detailed notes taken. The area could not be covered completely, but sufficient calling birds were heard or seen to allow population estimates of 80-250 birds, as low and high limits. Local belief is that the population has increased over the last ten years with the spread of vegetation. All birds seen were adult. Subspecies *cunenensis*. (See comment on subspecies origin).



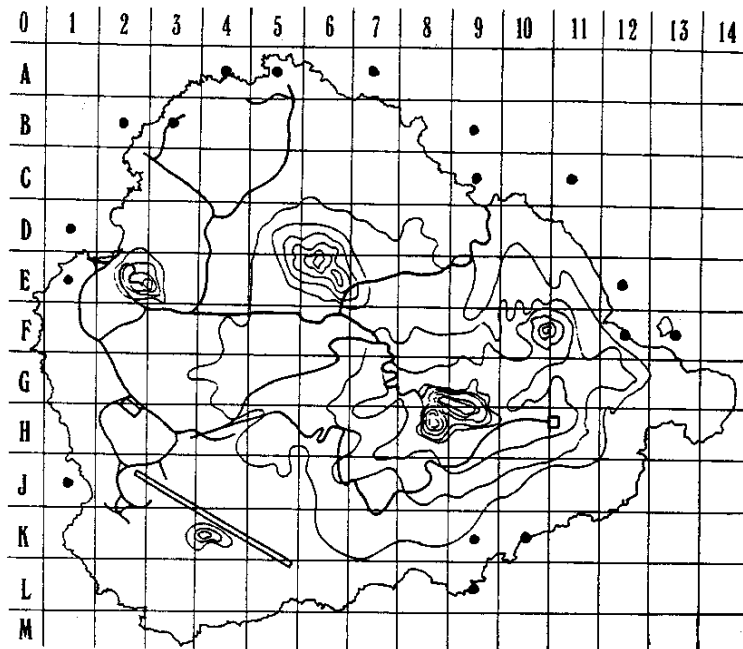
Map 12: Sooty Tern (*Sterna fuscata*) breeding grounds 1987

NB 0 = indicates suitable habitat selected in other years.



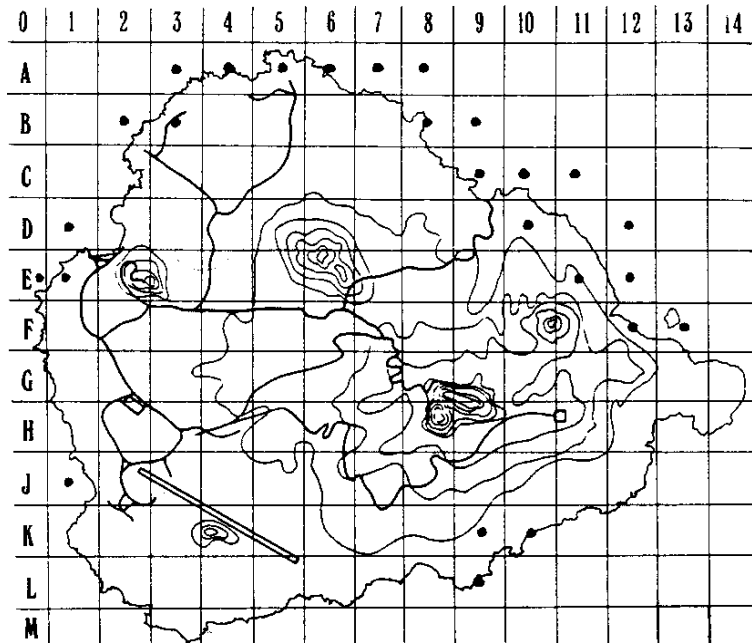
Map 13: Distribution of Sooty Terns (*Sterna fuscata*) sightings in 1987

Present in vast numbers on the Wideawake Fairs. Each grouping in the colonies tended to have courting birds on the outside, eggs on scrapes inside them, small chicks further in and large chicks and fledglings in the centre, possibly indicating that later arrivals are forced to select sites away from the favoured areas. Very few juveniles were seen, but this accorded with local observations that the juveniles, once they can fly, do not return to the colony. The main Sooty Tern flyway was down the west coast of Ascension. A few were seen on the east coast and a few may breed on BBI. Cat predation was extensive on the Fairs (see comment on predation). Population estimate, above 100,000. Subspecies *fuscata*.



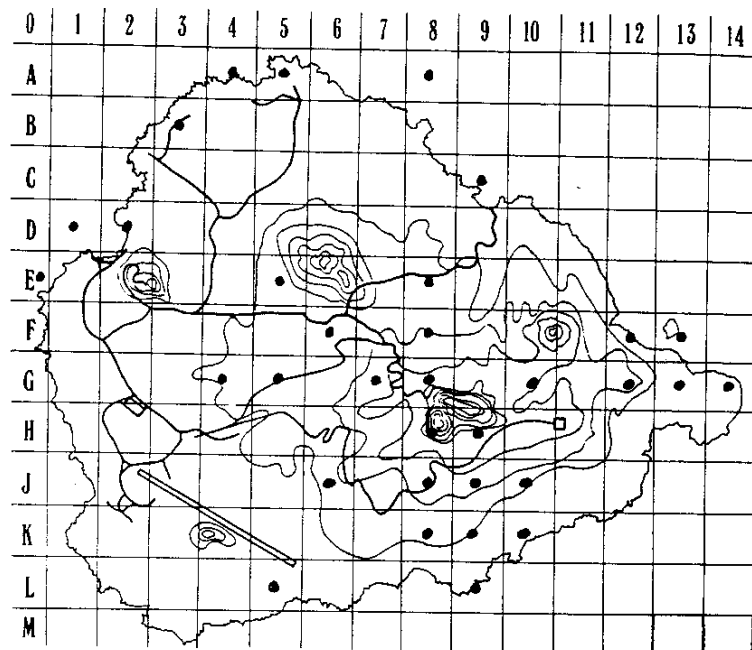
Map 14: Distribution of Brown Noddy (*Anous stolidus*) sightings in 1987

Present in small numbers all around Ascension. With practice, its jizz is distinguishable from A. (*tenuirostris*) minutes, to the degree that all observers could identify a singleton in a group of A. (*t. minutus*). Larger and with less hurried wing beats. Pale panel on the wing. Not seen on BBI, but in its vicinity, but the greatest number (39) was seen off the north-west coast. Inclined to fly close to shore when en route to and from feeding grounds. Population estimate of 200, a likely underestimate. (See comment on Noddy behaviour). Noted landing on stacks and on out-of-sight cliff faces. Subspecies *stolidus*.



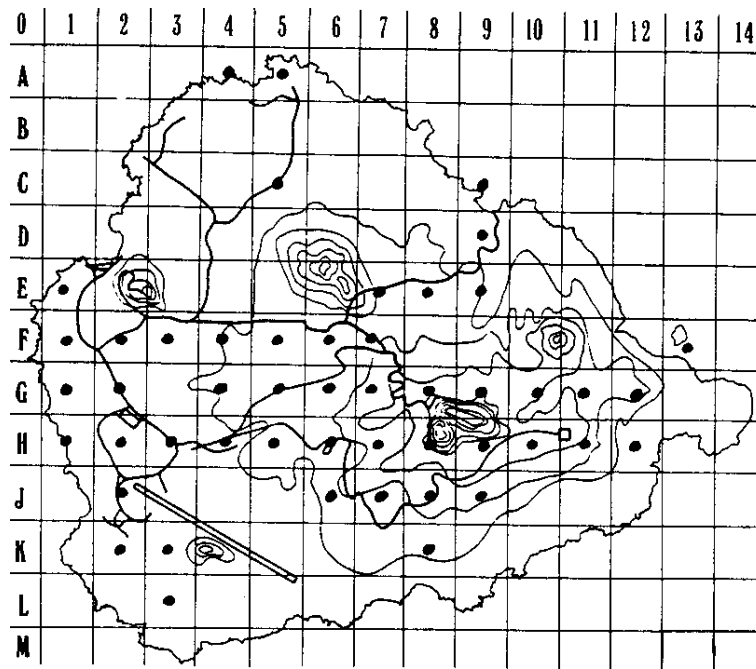
Map 15: Distribution of Black Noddy (*Anous (tenuirostris) minutes*) sightings in 1987

The taxonomic separation from the Indian Ocean and West Australian populations of Lesser Noddy *A. tenuirostris* is under debate. Seen all around Ascension, but present in largest numbers on BBI where juveniles had dark forehead, as shown in Harrison for *A. stolidus*. Also, extent of adult's cap less than as illustrated in Harrison, with clearer demarcation from the blackish nape, although not so sharp as in immature. Population estimate 6500. Like *A. stolidus*, fast and low flying. Subspecies *minutes*.



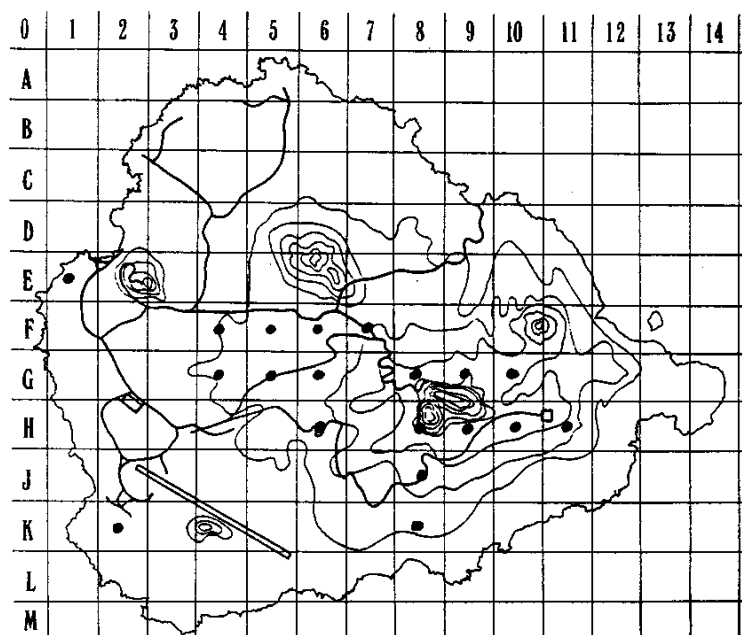
Map 16: Distribution of White Tern (*Gygis alba*) sightings in 1987

Breeds on cliffs facing BBI, but present in large numbers in that area. Breeds in small numbers inland on north facing *Gygis* cliffs on Green Mountain, occasional pairs breeding in trees. The only seabird regularly seen in transit across Ascension. Display flight near a cliff top favoured ledge was observed to contain hovering flight exhibiting wingbeat synchronicity. Base of bill noted in all cases to be black, not blue. The most elegant, graceful and effortless flight of all seabirds seen. Subspecies *alba*.



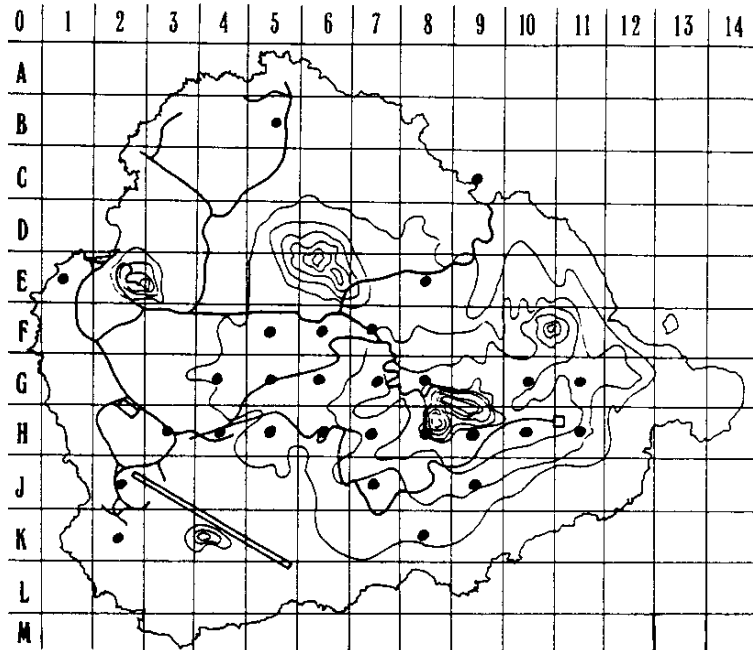
Map 17: Distribution of Indian Mynah (*Acridotheres tristis*) sightings in 1987

Introduced c1879 from Mauritius. Adaptable, mobile and thriving, especially since the increase in military activity. Largest number in a group was 150 waiting for mist to lift. Seen all over the island wherever human activity or ground cover might be. Limited nesting activity, adults seen carrying food. Population estimate in excess of 1000. Subspecies *tristoides* (South Africa) or *tristis* (India).



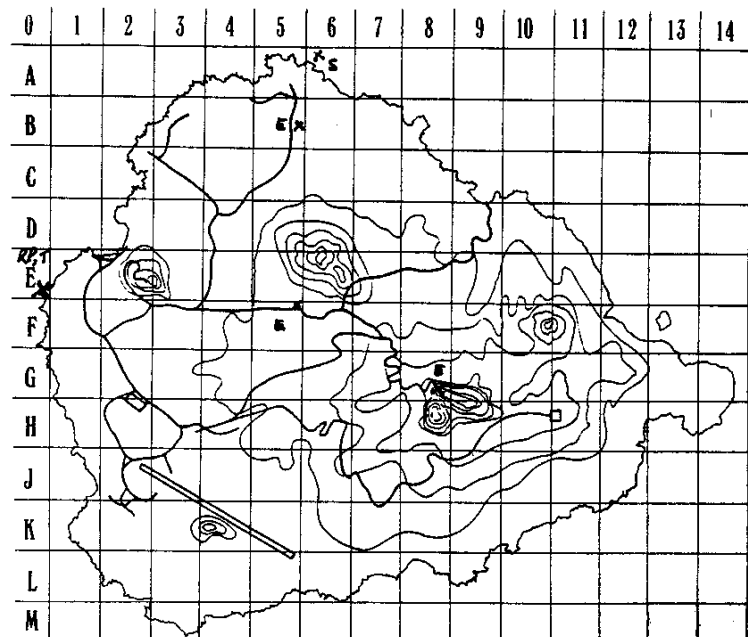
Map 18: Distribution of Common Wax bill (*Estrilda astrild*) sightings in 1987

Introduced 1851. Found wherever suitable bush cover and seeds existed. Principle concentrations at water tanks or wherever water was being used. Generally in small flocks. Population estimate 800 plus. Local opinion was that the population had increased in recent years. Subspecies not known, but possibly *damarensis*, (Namibia), *anqolensis*, (S Ziare, W Angola), *jaqoensis*, (W Angola, Cape Verde Is.), or *astrild*, (W Cape Province). The latter two subspecies have been suggested as candidates for the St. Helena population (Bourne 1955, Peters 1968, as noted by Long).



Map 19: Distribution of Yellow Canary (*Serinus flaviventris*) sightings in 1987

Introduced c1890. Somewhat more widespread than *Estrilda astrild*. Although also found in small flocks, singletons and pairs holding territory, were also common. Found near water, but also in more arid areas than the Common Wax bill. Population of 800 plus probably reflects local belief of recent increase. Subspecies not known but possibly *damarensis*, (Namibia), but *flaviventris*, (W Cape Province) is the strongest candidate for the St. Helena population, (Long).



Map 20: Sightings of Vagrants in 1987
 T: Turnstone (*Arenaria interpres*) one.
 RP: Ringed Plover (*Charadrius hiaticula*) one.
 E: Cattle Egret (*Bubulcus ibis*) one
 S: (*Skua spp*) Two

Turnstone *Arenaria interpres*:

A single bird had been discovered, a few days before the expedition arrived, at Catherine Point by Dr J de Korte, a visiting naturalist, where it remained for a number of days associating with the equally vagrant Ringed Plover *Charadrius Hiaticula*. Vagrant Turnstones have turned up on Ascension over a number of years. The bird appeared uninjured.

Ringed Plover *Charadrius hiaticula*:

This sighting, believed to be a first for Ascension, was first recorded by Dr J de Korte just before the expedition arrived. Excellent confirming views were obtained of this confiding bird, such that Semipalmated Plover *C. semipalmatus* could be discounted. It associated with the Turnstone and appeared uninjured.

Skua sp. *Catharacta* Sp:

A pair of large skuas were seen one evening from the point at English bay, flying in a NNE direction, away from the observers. Positive identification was not achieved. Neither bird was a light morph, nor did either have a cinnamon body, Chilean Skua *C. chilensis* therefore discounted. Although the presence of a dark cap was looked for, opinions differed, the observer with most experience of Great and Antarctic Skuas *C. skua* and *C. antarctica* could not be certain. Good size comparison obtained with Sooty Tern. Ground colour brown, not grey. Concluded that the birds were unlikely to be South Polar Skua *C. maccormicki*. Wing flashes more prominent on underside, and when below the horizon. However, as emphasised in Harrison, identification is beset by problems of individual variation of overall ground colour, by existence of limited hybridization in the South Atlantic and by recently known increase in migration / dispersal areas.

Cattle Egret *Bubulcus ibis*:

Sightings were obtained in three locations of a single bird, probably the same individual, which was most often to be found at "Lake Ascension", a small puddle on the Twoboats to Georgetown road. This water occasionally appeared after a series of heavy showers and would persist for several days. Cattle Egrets have often been reported in some numbers at Ascension, 12 being the highest total, their habits and plumage making them conspicuous. Ascension may have been used as a stepping-stone for this Old World species in its colonization of the New.

REPORT ON ASCENSION FLORA

Jon Curtis

Firstly no new plant species were found on Ascension but there are some general observations. It is fairly obvious that the main limiting factor on the further growth and spread of flora is the geological make-up of the island. Where there are lava flows the cacti will predominate and where there are ash and soil, the main vegetation thrives.

There are three types of plant growth on Ascension, the most prolific being on Green Mountain where plants were introduced to encourage rainfall back in the 1800's. The top of Green Mountain has a dense sub-tropical atmosphere with a bamboo forest and large amounts of lilies, even gorse. It seems that the ecosystem is dynamically stable and is now covering a healthy self-populating four square kilometres. Surrounding Green Mountain there is a belt of low scrub and grass which benefits from that mountain's usual covering of mist. On the edge of this belt there is a creeper which is the first to claim new territory, covering Mountain Red Hill, and partially, Sisters Peak. This, in time, will form new soil for the following vegetation, but its growth is limited by the harsh volcanic flows, for the creeper grows only on volcanic ash. The majority of the remaining suitable surface is covered by cacti, Prickly Pear. This thrives because no other plant on Ascension can extract the limited water from the soil. It will be quite some time before the cacti's natural dominance is toppled, even if the rainfall persists because of the harshness of the volcanic rock. The cacti do offer protection to breeding birds such as Wax bills and Canaries from cats and rats.

All around the island there is a belt of at least 1 km wide where there is almost no plant life whatsoever, because of the extreme heat and lack of water. The three main settlements of Georgetown, Two Boats and Traveller's Hill, all have extensive gardens which on their own do little to add to the overall ecosystem but escapes occur, adding to the plant list. If the present rate of rainfall is maintained then undoubtedly the vegetation would spread and develop, but since Napoleonic times it has been a cyclical process of advance and retreat. Removal of sheep, goats and rabbits would ease the strain on the flora. Future expeditions could look more closely at places such as Cricket Valley for possible new species and mutations and also map more accurately the main growth boundaries.

A Tentative Plant list

Acacia longifolia		
Ageratum canyzooides	-	Goat Weed.
Araucaria excelsa	-	Norfolk Island Pine.
Argemone mexicana	-	Mexican Poppy or Thistle. Bougainvillea (species)
Casuarina equisetifolia	-	She-oak or Beefwood.
Cerastium vulgatum	-	Common Mouse-ear.
Cocos nucifera	-	Coconut Palm.
Datura suaveolens		
Datura stramonium		Tentatively identified from a drawing by Packer.
Desmodium canum		Tentatively identified from a description by Packer.
Enreapogon cenchroides		
Eragrostis tenella		
Eucalyptus camaldulensis	-	Gum Tree.
Fumaria muralis	-	Purple Fumitory.
Ipomoea pes-caprae	-	Camel's-foot Creeper.
Juniperus bermudiana	-	Bermuda Cypress.
Kalanchoe		
leucaena leucocephala		
lycopersicum esculentum	-	Wild Tomato.
Melia azerdirach	-	Persian lilac.
Opuntia vulgaris	-	Prickly Pear.
Opuntia sp.		Similar to O.vulgaris, but without thorns.
Phoenix dactylifera	-	Date Palm.
Rubus (species)		Various species seen but not named.
Senecio vulgaris	-	Groundsel.
Solanum nigrum	-	Black Nightshade.
Sonchus asper	-	Prickly Sowthistle.
Tecoma stans	-	Yellowboy, and a larger species.
Tropoelum majus		
Ulex europaeus	-	Gorse.
Vinca rosea	-	Madagascar Periwinkle.
Adiantum capillus-veneris	-	Maidenhair Fern.

Report on Other Wildlife

Steve Jones

Land Animals

Goat

No evidence of Goats was found. They had been eliminated in 1944.

Donkey

Seen almost every day. In good condition.

Sheep

It was estimated that some 1000 sheep roam the island and are on the increase despite the slaughter for meat of half a dozen every other week.

Rabbit

During the expedition rabbits were seen every day.

Cat (*Felis catus*)

Evidence of domestic cats was found around all domestic sites. Semi-feral or feral cats were seen near Sooty Tern colonies and 2-3km away from human habitation. The cat population has been very destructive, one male cat can cover an area of 150-175 acres, (60-70 hectares), hunting mainly at dusk and dawn, its main peaks of activity. It breeds in remote locations in the rocks, its breeding cycle being March to June, and 4 to 5 kittens form the average litter. Future expeditions to the island could cover the following specific points:

- a. Disturbance by cats at the colony might be a factor influencing the Sooty Terns' choice of anew site. Evidence of the predatory pattern would be useful.

b. Evidence from New Zealand shows that cats can be eliminated from a large and difficult island. However, the presence of many people whose view of cats as domestic pets, could prove a stumbling block.

Brown Rat

Evidence of Brown Rat was seen on a number of occasions, but they are obviously widespread only near areas of human habitation.

House Mice

Seen at English Bay, Green Mountain and Wideawake Fairs,

Butterflies

Small blue butterflies, (*Lycaena boeticus*) (Packer) were recorded on Green Mountain. No other species were identified but a brown butterfly was seen on the Wideawake Fairs. Future expeditions could find it worthwhile to research further.

lizard (*Liolaemus weigmanni*)

Found in dry areas, mostly to the south of Green Mountain.

Gecko (*Hemidactylus mercatorius*)

Found in most buildings.

Yellow and Purple land Crab, (*Gecarcinus lagostoma*)

Seen far inland and also near the shoreline. They seemed to increase in numbers as night fell and may well cause mortality to young Sooty Terns. According to Packer they exhibit an irregular cycle of mass return to the sea every 12 years or so, but normal Gecarcinid behaviour is to do so each year.

Sea Animals:

Bottle-nosed Dolphin

Up to 25 on the north east coast.

Green Turtle (*Chelonia mydas*)

Seen mating in the waters around Ascension and coming ashore to lay. Also seen digging and laying eggs.

Hawksbill Turtle (*Eretmochelys imbricate*)

One seen on each of two days at Georgetown pier.

Fish Species identified with reasonable certainty:

- Sergeant-major fish
- Jack-caranx
- Puffer fish
- Pipefish
- Blackfish -Balistes
- Blue Shark
- Bonito -Katsuwonis
- Tuna -Thunnis
- Wahoo -*Acanthocybium solandri*
- Thresher Shark

A report on invertebrates recorded during the expedition is expected to appear in the next RAFOS Journal, Ed.

Meteorological Report

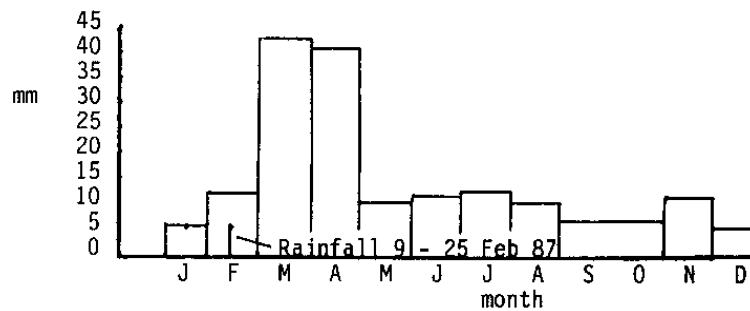
Steve Jones

The information available covers readings from the airfield and from Traveller's Hill, therefore any conditions that prevailed on other parts of the island are not recorded. The rainfall is of course much higher on Green Mountain. Throughout the duration of the expedition the following were recorded.

	AVE.	MAX.	MIN.
Wind ESE	10kts	23kts	6kts
Visibility	30-70km	80km	15m
Temperature		30.5C (87 F)	23.5 C (72 F)
Rainfall		5.0mm	
Relative Humidity	70%		
Barometric pressure	1013mb		

Day to day temperatures remained constant during the stay and future expeditions should be wary of the mid-day sun. Temperatures in the open in the lava fields were very much higher. Rainfall during the expedition reached a maximum of 5.0mm, but most days were completely dry.

Ascension Rainfall -Monthly Averages over the Period 1962-1985



Highest rainfall pattern:

Month	J	F	M	A	M	J	J	A	S	O	N	D
Year	'63	'85	'63	'85	'73	'74	'63	'64	'62	'84	'84	'84
mm	35.8	95.8	280.9	338.6	22.6	33.0	51.1	30.7	20.1	25.1	65.3	20.1