

ISLANDS IN THE SUN

After experiencing two weeks of wind and rain in the western islands of Scotland last summer, the members of the Sub-Aqua Group decided that an area with a more suitable climate would have to be found for their next expedition. The Group has recently returned after taking part in a three-week-long biological survey of the island of Lanzarote in the Canary Islands. The party consisted of 16 people, of whom 10 were from Heriot's, including Mr T. C. Borthwick of the Physics Department. Their task was to collect specimens from the sea bed and to help in the identification of them. Amongst other work, an ornithological study of the island was made by two girl students. The whole enterprise was led by the President of the Group, Dr C. S. Johnston, a lecturer in biology at the Heriot-Watt College. An expedition of this character was clearly beyond the scale, particularly financially, of any of the projects which the Group had previously carried out. Grants were obtained from the Royal Geographical Society, H.R.H. The Duke of Edinburgh and Sir James Miller, the Lord Mayor of London. In the later stages of the expedition planning, further financial assistance came from other organisations, including Salvesens of Leith. The costs of the expedition were kept as low as possible as a result of co-operation from many British companies, some of which donated stores, whilst others lent diving and survey equipment. The outcome of such a tremendous support was that throughout the summer term mysterious packages were constantly arriving at the Lodge, as the ever-patient janitors will confirm.

Once the summer holidays had begun our mass of stores was sorted out and packed in wooden crates (thanks to Cumming's Boxes Ltd.) amidst blood - the gymnasium floor still bears the marks - and sweat. Sighs of relief were heaved when the furniture van which had been lent to us left for Southampton a week before we were due to depart. Most of the party had to spend this frustrating week in Edinburgh before travelling down to London by over-night bus. However, the two committee members, Dr J. H. Duffus of the Heriot-Watt College and Douglas Heggie, School Captain last session, left for London earlier to collect the remaining items of equipment which we had been loaned. Unfortunately their visit coincided with some of the worst flooding in the London area for many years and on one occasion Douglas was stranded in Cambridge with three portable(?) radio transmitter/ receivers. The morning which we had in London was passed in seeing the city, and in doing all our last-minute shopping, and then we boarded the boat train for Southampton Docks. After standing for the whole two-hour journey we caught our first sight of the t.n. Begofia, one of the ships of the Spanish Line. The Company was allowing us to travel at a special reduced rate. The Customs formalities completed, with a small degree of trouble over one item of our luggage, we boarded the ship.

From this moment we found that we had to use Spanish, so that we were very glad to have our interpreter, John Buchanan of last year's VI, to help us in our encounters with the ship's personnel. Naturally as the ship was Spanish and most of the passengers were Spanish, the food also was Spanish-stewed octopus was the main dish at our first meal! By the end of a week the party was split into three categories - those who liked the food, those who tolerated it, and those who did not bother to attend meals, albeit sometimes because their digestive systems were in no state to accept food anyway. The six-berth cabins were very comfortable, although they tended to be rather warm. To help remedy this the porthole was normally left open, which led to one sad incident when a good part of the Atlantic Ocean landed on one of our more eminent members (further details c/o Cambridge University). The water then proceeded to flood our cabin, the passageway, and the cabin next door. The stewards landed with the job of mopping up the mess kept repeating the Spanish equivalent of " It is not possible ", as well as

other terms apparently not translatable. The ship called in at four ports in Spain, Corunna, Vigo and Cadiz on the journey down and Santander on the way back. Of these Vigo was the only one where more than a day was spent. After travelling more than two miles in a wooden-seated tramcar, which moved at speeds of more than 40 m.p.h., it has left a lasting impression on members. In total about a week was spent on the Spanish Peninsula, giving the party some experience of the country.

The nearest point to the island of Lanzarote that the ship called at was Las Palmas in Grand Canary, and it was here that the Group disembarked and watched their luggage being not very carefully unloaded. After Customs clearance, secured with the help of Sr La Ordon of the Spanish Embassy in London and the British Consul in Las Palmas, we left the Docks in a fruitless search for the reputedly magnificent beaches and night-spots. Although Las Palmas itself was to us uninteresting, some beautiful scenery was discovered in other parts of Grand Canary by those who went on a tour of the island. A day and a half after leaving one ship we boarded another, this time the inter-island steamer bound for Lanzarote. Any feeling of excitement which the party may have had was soon overcome by a more physical feeling caused by the rough sea, and few people got much sleep on the over-night crossing.

When 16 weary expeditionaries straggled down the gangway on to the pier at Arrecife, the main town on Lanzarote, none of the party was prepared for the reception which was given to us. Waiting to shake each member by the hand were the Spanish Government Delegate, Don Andres Gonzalez, the Chief of Police Heraclio Niz Mesa, known locally as El Pollo (the chicken), a title gained from his fame as a champion wrestler in the Canaries, and Dr Herrero, the head science teacher at the secondary school in Arrecife. We needed only to mention that transport was required for our equipment, and two lorries were produced within minutes. Most stomachs were empty, either because we had not eaten for 14 hours or for other reasons. It was thus with relish that we attacked the "snack" supplied by the Chief of Police. This consisted of a boxful of two-inch thick sandwiches, three bottles of the (strong) local wine and two enormous water melons. So hot was the sun, scorching down from the cloudless sky, that we had to take what little shelter we could under our lorries.

It had been decided that we should base ourselves in the village of Arrieta in the north of the island. We had come prepared to camp, with crates full of gear soon to become redundant, because the Delegate offered us a house which we were able to use instead. Whenever we turned the corner into the village of Arrieta, we guessed which house he meant. It was the tallest building in the village and was still more conspicuous amongst the white houses because of its red, blue and yellow exterior. The sea even surrounded it on three sides, making it ideal for expedition purposes. One of the large downstairs rooms was set aside as a laboratory and equipment store. This soon took on a very efficient look with benches made out of our wooden crates turned on their sides as cupboards, and charts of the survey areas mounted on the walls. The other rooms were used as living accommodation - the members who did not have air-beds were feeling a little sore after sleeping on bare floorboards for three weeks.

It had originally been intended to hire a van to be driven by ourselves, but after just half an hour's experience of riding in a microbus on the narrow roads surfaced in the main part with volcanic ash we readily accepted the advice of the Delegate and hired a bus with driver. Not only did the driver, Antonio, know all the vagaries of the island roads, but he was also a keen spear-fisher and often advised us on good diving areas. He added to our specimen collection with his frequently bigger catches, although he could not understand why members were intentionally going after the small fish. Throughout our travels over the island in the microbus we never failed

to be amazed by the way in which the inhabitants succeed in growing all types of crops in the apparently arid soil. In extensive vineyards in the south of the 50-mile-long island the vines are grown in small walled "craters" that have been cut into the beds of volcanic ash. By planting the vines in these depressions the inhabitants have protected them from the almost perpetual wind which buffets the island. As the surface soils are of no value for growing crops, a layer of fine black volcanic ash is spread over the ground. This cinder bed holds moisture and provides a good rooting medium for the crops. These are grown mainly during the winter months with the result that what we saw were the fields being prepared for the growing season. Much of the island produce is sold locally, but fruit such as the water melons mentioned earlier is exported in large quantities

Lanzarote is entirely volcanic in origin, the landscape being composed of red volcanic cones and wide black lava flows. None of the volcanoes is still active-the last eruption took place nearly 200 years ago-but in a region called the Montañas del Fuego (Fire Mountains) in the south of the island some extraordinary phenomena are found. The rock a few inches below the surface is so hot that when dry brushwood is pushed into cracks in the rock it bursts into flames within a minute. The air issuing from holes in the rock is hot enough to cook food and boil water, a property which a local restaurant proprietor uses to great advantage. Impressive caves and rock formations, both on land and underwater, have resulted from the movement of the lava. Most notable of these are the Cuevas de las Verdes, a series of huge caverns, the longest caves of volcanic origin in the world. In the early history of the island the inhabitants hid from invaders in these caves. By the use of carefully chosen lighting the natural architecture of the caves, a section of which is now open to tourists, has been enhanced. Some of the party saw round them, but unfortunately the lack of light made photography impossible. A small section of the Group was allowed to dive in Jameo del Agua, a privilege which had never previously been given. It is an inland lake covered by a canopy of lava about 50 feet high, and is connected to the sea, presumably through fissures in the rock, so that the water level moves with the tide. In this cave dwells a type of blind white crab, the only known shallow water where this is so, as other members of this group live in the ocean at depths of more than a mile.

The waters round Lanzarote were perfect for diving, being very clear and pleasantly warm, usually with a surface temperature of about 70°F. Because of this great clarity members found it difficult to judge depth and had often reached 50 or 60 feet before they realised it. On many occasions divers examined caves and overhangs at such depths using only snorkels, a feat practically impossible in Scottish waters. The record depth for a snorkel dive during the expedition was approaching 90 feet! Although much of the basic work was performed by snorkel diving, a considerable amount was done using aqualungs. In this respect the expedition was very well equipped, with three twin-cylinder aqualungs and a number of single-cylinder sets. A difficulty, however, arose in charging these with compressed air. The heat was so great during the day that the Group's compressor could not be run and a night-shift had to be organised. Because this necessitated late nights and early risings it was not an over-popular measure; nevertheless it did afford the chance to write postcards home during periods of inactivity.

In contrast to the starkness and aridity of the land, the sea abounded with fish and other sea life. The fish ranged from the small but beautifully coloured demoiselle to the larger wrasse and groupers. These last probably represent the greatest prize for the underwater hunter, often weighing 50 pounds or more - two divers claim to have seen an example as large as one of our younger expedition members. Two other common fish, the moray and conger eels, were encountered on most dives. The moray eel lives in rock crevices and under overhangs, a fact

which makes it a real hazard for divers searching for specimens. Fortunately no one was bitten, for the moray eel possesses viciously sharp teeth. Stingrays were found over sand, usually below 30 feet. Being very majestic swimmers, they make ideal subjects for the underwater camera and our photographers were always willing to run the risk of having serious wounds inflicted on themselves by the dangerous spine on the animal's tail. In practice the greatest threat came from a type of sea urchin, the commonest creature on the sea bed. This has long sharp spines which easily penetrated the diver's skin if he brushed against one. "Minor surgery", with the aid of a dissecting kit, was required to extract these spines.

To anyone who has never been serenaded after midnight by a group of señoritas, a visit to Lanzarote must be recommended. It was felt that, in the best Scottish fashion, some hospitality had to be offered, and so until well after 1 a.m. 16 hurriedly dressed members handed out shortbread and "Pepsi-cola" and tried to converse in a mixture of English, French and phrase-book Spanish. Tape recordings were made of their traditional Canary Island songs which they sang to the accompaniment of guitars and tipples, five-stringed instruments native to the Islands.

Towards the end of our stay they saw fit to compose a verse in our memory, which, our interpreter assures us, is entirely complimentary, if a little conceited. Not to be outdone by their efforts, one of our members scored a great hit when he played several tunes on his bagpipes. The "typical Canarian meal" which we were given on our last night in Arrieta will never be forgotten. It consisted of a punch made from the local wine cunningly disguised with fruit, followed by enormous platefuls of paella, a rich dish. To finish the meal and the members, they were hand-fed with figs, grapes, peaches, melons and cactus-fruit.

The appeal of the island with its cloudless skies, warm seas and ever-helpful inhabitants made the Group very reluctant to leave Lanzarote. In spite of the tearing up of tickets, all the party did board the inter-island steamer, bound this time for Tenerife, where we were due to connect with the t.n. Begoiia returning from South America. Everyone would willingly have stayed for another three weeks if time and money had allowed, but, as it was, the party was going to arrive in Edinburgh only the day before the return to school.

Although the lighter and more general moments of the expedition have been given most attention in this article, it should be mentioned in conclusion that from the scientific point of view the expedition has been a complete success. Over 12 different areas of the island and 200 seashore communities were extensively examined. In each case a complete collection of specimens was made. After preliminary sorting and preserving in the "lab" at Arrieta these specimens were all brought back to Edinburgh.

An enormous amount of work remains to be done—from the 200 samples we expect to record over 500 species, and in each case we will be able to give an accurate scientific description of the different areas which each organism inhabits. The work is of interest to a number of organisations including the British Museum, U.N.E.S.C.O. (the Department for Advancement of Science) and Copenhagen Museum, which made a general survey of the area some years ago. It is expected that this work will take two years to complete. In addition to the biological work, considerable photographic studies were undertaken, including the shooting of a 16mm. colour film which we hope to show early in the new year. Similarly we were able to obtain several hundred colour slides covering every aspect of the expedition. All who took part in the expedition are agreed that they would gladly participate in another of its type if this were ever possible.

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