

MARIE-HELENE SACHET : ISLANDS, ATOLLS AND REEFS

By

F.R. Fosberg

Dr. Marie-Hélène Sachet's name will always be associated with studies of tropical islands, perhaps more especially with the terrestrial aspects of coral islands (the above water portions of present-day coral reefs). Few people have ever amassed knowledge comparable with what she had of this pan-tropical phenomenon, the coral-island ecosystem. By her bibliographic studies she had a vast familiarity with the works and ideas of a distinguished line of investigators in this field. One may mention the Forsters, who first differentiated "high" and "low" islands, the latter being most of the coral islands; Chamisso, who made perhaps the first rather detailed scientific observations of coral atolls, with Kotzebue on the voyage of the Rurik; Darwin, whose brilliantly conceived subsidence theory explained the ring-like geography of atolls; Alexander Agassiz, J. Stanley Gardiner and W. M. Davis, who described and interpreted coral atoll and reef geography on a worldwide scale; Mayor, Setchell, and Ladd and Hoffmeister who studied in unprecedented detail the nature and formation of reefs. She studied the results of the German South Sea Expedition, the Whitney Expedition, Mangarevan Expedition and the Micronesian Economic Survey, all of which visited numerous atolls in the first half of this century, and the contemporaneous incredibly detailed investigations of Bikini and neighboring Marshall Islands. Familiarity with these and numerous other published sources of information gave her an incredibly rich background for her own studies and for her unfailing help and support for other workers, particularly for promising younger people entering the field.

Her activities have been inextricably entwined with my own and those of David R. Stoddart, so that her major contributions have tended to be overshadowed or unappreciated. An account of a long term project, investigating the geography and terrestrial ecology of coral islands may serve to explain and commemorate Marie-Hélène's role in the fascinating field of island studies, as well as, incidentally, to point up some aspects of long-term interdisciplinary scientific studies.

Marie-Hélène Sachet came in 1949 from an obscure position in a cytology Project in the University of Paris, to help me in what we informally called the Pacific Vegetation Project, funded at that time by the U.S. Army Quartermaster General's Office, and housed at the Catholic University of America. The official objective was to establish the feasibility of using vegetation as an indicator of other environmental characteristics and conditions in the Pacific Islands, especially by interpretation of air-photos. This project was not particularly centered on coral-islands, and it must be kept in mind that our studies of atolls were, and still are, a component of broader floristic, taxonomic, ecologic, biogeographic, and vegetation investigations of tropical islands, generally. Our project was in 1951 transferred to the U.S. Geological Survey, where we became Pacific Islands vegetation experts for their Military Geology Branch. We stayed there for 15 years, working closely, also, with the Pacific Science Board (PSB) of the National Academy of Sciences-National Research Council.

In 1949 the South Pacific Commission (SPC) Research Council had enlisted the cooperation of the Pacific Science Board, under Harold J. Coolidge, in a Project on economic welfare of the peoples living on coral atolls, asking especially for help in compiling published information on atolls. Thus was born a major, long-term multidisciplinary and interdisciplinary study of coral islands and the reefs that

become islands when their surfaces become exposed above the sea surface.

This got underway, supported by the Office of Naval Research, Geography Branch, in 1950, and we were much involved with it from the first, handling the bibliographic work requested by the SPC, and consulting in the organizing and carrying out of five major detailed studies of representative atolls. This, of course, fit right in with our Pacific Island vegetation studies for the U.S. Geological Survey, where our first major enterprise was an extensive study of the Northern Marshall Atolls.

Marie-Hélène's first seven years were mostly taken up by a massive bibliographic study of island literature, extracting and organizing information, producing a large volume, *Island Bibliographies*, published by the National Academy of Sciences-National Research Council. At the same time she was involved with handling a vast inflow of specimens and field data, never seeing a coral island herself until 1957. By this time, however, she had become a major source of information to almost everyone concerned with tropical islands, especially atolls. During the five years of large-scale field work in the PSB Coral Atoll Program she was the source of background information and specific details for most of the personnel involved, and saw to the publication of their reports. At the beginning of this program it was decided that the reports should not be buried in the U.S. Navy files, but should be available to everyone seriously interested in coral islands and reefs. The expedition reports and related papers were duplicated for the Office of Naval Research, and a large over-run was made (at least we thought it was large) and distributed to a selected list of interested workers and institutional libraries. For easy reference we named it the *Atoll Research Bulletin*, and it was issued by the Pacific Science Board. We were joint editors, but Marie-Hélène did most of the work, throughout its history through number 292, the one just preceding this one. Her standards became more meticulous as the journal grew in importance, to become, in the words of more than a few users, the most important single source of information on atolls and reefs. No one not immediately involved, can have an adequate idea of the amount of detailed work that she put into this enterprise for 36 years, mostly over and above her proper job. The *Atoll Research Bulletin*, familiarly known as ARB, will be her lasting monument, in addition to her very impressive list of publications, notably the *Island Bibliographies* volume (1955) and its Supplement (1971) (see appended list).

The component of our program of island studies that from the first was Marie-Hélène's special interest was the terrestrial ecology of coral atolls. It was after World War II that the science of ecology began to mature to the point where its proponents started to realize that the organisms, the environment, the cycles, the interrelations, and the processes they were studying are all components of functioning systems. The term ecosystem was coined by Tansley in the 1930's, but never much used by him, and had, until mid-century, not become familiar, even to ecologists. About that time some ecologists began to refer to their science as the study of ecosystems, and about the time this was coming about, the incredible complexity of these systems was becoming apparent. How to gather, accumulate, and deal with the myriads of components and processes in an ecosystem became a major problem. Field naturalists, over years of observation, could develop an intuitive concept of the nature they were immersed in, but to record and analyze, and integrate such an enormous body of data into an understanding was an unmet challenge. Inklings of a way to go were apparent, but not generally recognized, in the relative successes of studies of extreme simplified ecosystems such as deserts and the the arctic. The continental tropical systems, culminating in the overwhelming complexity of the lowland tropical rain-forest seemed too much for the human mind. Islands, which had given vital clues to Darwin and Wallace, were obviously simpler than continents, but still defied the relatively few investigators that chose to study them. The multiplicity of habitats and micro-habitats on a high island in the rainy tropics, and even in the relatively few such islands in the dry tropics, presented such a set of variables, even in the few parameters that could be readily studied, that there seemed no way to handle or comprehend them, let alone compare their complexities from island to island.

Our studies of Pacific island vegetation, backed up by my own previous explorations of Polynesia

and Micronesia, suggested an approach that seemed worth trying.

Low coral islands or atolls presented a situation where the parent rock was all limestone of organic origin, varying in texture and in a very minor degree in chemistry. Compared with most other situations this was practical uniformity. The almost flat terrain, seldom more than 2 or 3 meters of relief, eliminated most of the variability due to altitude. The location of these islands in or very near the Tropical Zone and proximity to the ocean reduced temperature variation to a restricted range of warm temperatures. The biota was known to be impoverished. The pH was thought to be uniformly 7 to 7.5.

This left the principal variables to be moisture, wind, insolation, and salinity, all readily measurable. One might say the situation was about as near a laboratory arrangement as could be found in nature. Another advantage was the existence of a few slightly to well elevated atolls or limestone platforms, well scattered through the atoll regions of the three oceans. These would make it possible to assess the effects of the lack of relief.

Compared with continental, or even high-island ecology, this seemed to be simplicity itself. We thought that even the pertinent literature would comprise but a relatively small number of books and articles. How wrong we turned out to be on both these counts!

At the time of the South Pacific Commission request to the Pacific Science Board for help with coral atoll literature we had already started to collect and study the literature on Pacific Island botany and ecology, especially vegetation. This was easily broadened to include a focus on everything about coral islands that could possibly have a bearing on their land ecology, a subject that soon became fascinating to Marie-Hélène, a preoccupation that lasted throughout her career.

At the same time, a decision was made in the PSB to not be limited to compilation of data from literature, but to study atoll ecology and topics with a bearing on it actively in the field. A proposal was made to the Geography Branch of the Office of Naval Research to support studies of selected atolls in depth. This was accepted, planned for at least five years, with a major, multidisciplinary expedition to one atoll each year. Marie-Hélène was taken on the PSB staff half-time to handle the bibliographic and information needs of the project. The other half she was employed by my Pacific Vegetation Project, and soon taken over with that project by the USGS. This arrangement continued for 15 years, with mutual benefits to the two organizations.

One of the first activities started was a catalogue of atoll organisms. We soon found out that, though the flora and fauna were "impoverished", this meant that there were thousands of species, compared to millions. We also found out that the taxonomy and distribution of these thousands was in a primitive state, indeed. For many groups there were neither specialists nor monographs. And the literature was rife with misidentifications and identifications that could not be verified. We found, further, that for very few atolls were there even casual lists of even the most obvious, large and readily visible organisms. Here, indeed, was a long-term project, even to provide a basis for serious ecological studies.

Accumulating records of atoll organisms could, itself, have been a full-time task. We soon found that putting these records in order, organizing them taxonomically, determining their correct names, cross-indexing and properly placing synonyms, and even eliminating synonymous island names, was an enormous assignment. In the course of bibliographic work and reading geographic, ecologic, floristic and faunistic accounts, records of plants and animals, even in as limited an ecosystem as the part of coral islands above high tide level, accumulated enormously. And this was only one of the undertakings that we got involved in. We were actively bringing together and organizing the records for an annotated catalog of the Micronesian vascular flora, started back in 1946 as a project during the

Economic Survey of Micronesia. It later evolved into a full-scale descriptive flora, much of the material being used both in the Micronesian projects and in the coral atoll ecology work. After all a substantial number of the Micronesian islands are of coral limestone.

Each year, from 1950 through 1954, a major investigation of a selected atoll was carried out under PSB auspices, Arno atoll in the southern Marshalls (1950); Onotoa, in the Gilberts (1951); Raroia, in the Tuamotus (1952); Ifaluk, in the Carolines (1953); and Kapingamarangi in the Caroline Islands (1954), with a Polynesian people, were visited by interdisciplinary parties. Marie-Hélène supplied references, written information, and briefing to any member of these parties who wanted them. In return she handled a flow of information coming in from these same people, bringing their reports out in the ARB. She prepared reviews of a number of interesting atoll phenomena, e.g. the occurrence of pumice on atolls, and its significance; scorpions on atolls; abstracts and summary translations of accounts published in French and German; and a review of what was known of Aldabra Atoll in the western Indian Ocean (of which, more later).

During this same period, the USGS, taking advantage of ship transportation furnished by the U.S. Army Corps of Engineers mapping activities, carried out a major geologic, geographic, pedologic, and biologic survey of most of the northern Marshall atolls that had not been covered by the Crossroads Operation in 1946 and subsequent years. The data and specimens from this were grist for Marie-Hélène's mill, added to those from the PSB expeditions. Interesting ecological findings on the USGS expedition were the abundance and minor element role of floated pumice in atoll soils, and the mode of formation of bedded atoll phosphate rock through the combined agencies of bird guano, acid raw humus from *Pisonia* trees, rainfall, and coral sand. This phosphate was the basis of an exploitation industry on coral atolls in the second half of the 19th Century and the beginning of the 20th.

Editing and getting out the material from these investigations in the ARB became a major part of her activity. This added enormously to her knowledge, but left little time to get this knowledge digested and written down and published in integrated form.

After the five PSB expeditions, the ONR Geography Branch wanted the results brought together in a form that they could appraise and evaluate. Rather than the obvious course of having Marie-Hélène undertake this, they chose to have a professional human geographer do it. Though poorly prepared to handle the physical and biological aspects, he chose to treat these first, depending largely on the ARB reports and information supplied by Marie-Hélène. He took a trip through some of the Micronesian atolls to supplement his own field experience gained on one of the PSB expeditions, and to gain an overview. His lack of experience and training in these physical and biological aspects made the comprehensive volume (Wiens, 1962) that resulted disappointing in some respects, but on the whole it was a useful summary. He never proceeded to do the planned second volume on the human geography of atolls, which was his proper field.

The momentum of the program was slowed down by this interruption, and ONR support, though still forthcoming, was on a lesser scale and more episodic in nature.

Interspersed with this activity in the Pacific atolls were visits to several of the rather few Caribbean atolls. This started with a short visit of mine to Alacran Reef, Yucatan, leading to a visit by the two of us to Pedro Cays, south of Jamaica. About this time our colleague, David Stoddart, was initiating his career with investigations, over several years, of the coral cays and reefs off the Belize (British Honduras) coast. We were able to assist him with plant identifications and information, and with publication of his results in ARB. The occurrence of a devastating hurricane Hattie in 1961 gave him a chance to study "before and after" conditions, and to compare hurricane effects in the Caribbean with those observed by us, earlier, in the Pacific, especially on Jaluit Atoll, Marshall Islands, devastated in 1958. We also, in 1962, paid a visit to Dry Tortugas Keys, a Florida atoll, former site of

the Carnegie Institution coral reef laboratory of A. G. Mayor.

In 1958 Marie-Hélène visited Grand Cayman, a somewhat atoll-like high coral island making plant collections and gaining some further familiarity with the Caribbean strand and lowland flora.

The Smithsonian, in 1969-70 initiated Coordinated Investigations of Tropical Reef Ecosystems (CITRE) which aimed to be a major investigation in depth of a coral reef. Marie-Hélène was involved in the attempt to select a site for this investigation, and we both, with David Stoddart, participated in a two weeks "feasibility study" and preparation of a proposal. This was carried out by over 40 reef workers, on Glover's Reef, one of the three atolls off the Belize coast. This gave us a good chance to study in a preliminary way, the Caribbean equivalent of a Pacific atoll.

This CITRE proposal, after a tremendous investment of time and money, failed to get funded. Some of the Smithsonian participants then proposed, and got continued funding for, a much more modest project, investigations of Marine Shallow Water Ecosystems (IMSWE). This project is still continuing. Stoddart and I, with two colleagues, made a survey of the Belize Barrier Reef and Lagoon Cays, resulting in an account of the flora of the Belize Cays, of which Marie-Hélène was co-author. The IMSWE group are now conducting a detailed study of Twin Cays, mangrove cays in the Belize Barrier Reef Lagoon.

In 1955 Dr. H. J. Coolidge was informed of a plan to resettle on Aldabra Atoll, western Indian Ocean, a large number (said to be about 800) of Seychellois workers, displaced from their employment by the Egyptian take-over of the Suez Canal. Worrying about the effect of this on the only remaining population of the Indian Ocean giant tortoises, and also about the suitability of this atoll as a habitat for large numbers of people, he asked Marie-Hélène to compile what information was available on Aldabra. From her bibliographic studies she was able to do this, and to prepare a memorandum for him. From what was known, it seemed clear that lack of fresh-water and very limited arable soil, such a population could not possibly survive without continual food and water from outside. Dr. Coolidge was able to use this memo to help persuade the British authorities to abandon this plan. This made us very much aware of this otherwise obscure and little-known atoll.

A decade later we became aware of a joint plan of the Royal Air Force and the U.S. Air Force to establish a "staging post" on Aldabra. Although this plan was kept under security classification by both air forces, the aspects classified on the two sides of the Atlantic were not identical. With the cooperation of David Stoddart, first on Addu Atoll in the Maldives, then in England, we were able to pool enough information from press announcements and rumors to realize that if this plan were carried out, it would mean the destruction of the, to then, almost unaltered Aldabra ecosystem. The tortoises and a number of other endemic plants and animals would face extinction. We were able to enlist many strong people, and institutions such as the Royal Society, the Smithsonian, and the National Academy of Sciences, to urge the governments to try to find another suitable location for the staging post. After an extensive publicity campaign and debate in Parliament, the British government finally announced that, due to the national financial situation, this plan and other British military activities in the Indian Ocean would be abandoned. At about this time, starting with a preliminary survey, by Stoddart, Wright, and Rhine under Royal Society auspices, of Diego Garcia Atoll and Aldabra, one of the most comprehensive studies of a single island ever undertaken was started by the Royal Society. A field station was built and is still functioning, under Royal Society administration through 1981, since then under the Seychelles Research Foundation. From being one of the lesser known islands, Aldabra has now become possibly the best known oceanic island.

Although Marie-Hélène was never able to visit Aldabra personally, she was one of the most knowledgeable persons about it and had the satisfaction of having played a key part in saving the atoll in its natural state.

In 1957 the occasion of the Eighth Pacific Science Congress gave Marie-Hélène a trip around the world and a chance to see her first coral island, on an unscheduled 30-hour stop on Bermuda, fascinating, but scarcely a typical atoll. On one of the field trips at the Congress, she made the acquaintance of Dr. Roger Revelle, then director of Scripps Institution of Oceanography, which led, the following year, to her participation in a multi-disciplinary expedition, under Scripps auspices, to Clipperton Island, the only coral atoll in the eastern Pacific Ocean. Taking full advantage of this opportunity, and with her superb grounding in all aspects of atoll studies, she collected a vast amount of information, and the material for a magnificent series of papers (1960, 1961a, 1961b, 1962a, 1962b, 1963) culminating in a monograph of the natural history of the island, for which she was awarded her Doctor of Philosophy degree by her alma mater, the University of Montpellier, France, in 1961. Clipperton being a French possession, these publications gave her a professional status in France as well as in the U.S. and recognition that was on a firmer basis than anything she had enjoyed earlier.

A short visit of a few days in 1963 to Wake Island, central Pacific, gave her a personal acquaintance with a relatively dry type of atoll, giving more of a feeling of reality to some of the information she had previously only second-hand.

We acquired news of the existence of extensive field-notes by M. G. LeBronnec, aging self-taught naturalist, and long-time guide and collector for the Pacific Entomological Survey in the Marquesas Archipelago. This aroused our interest in that remote archipelago, and the likelihood of the disappearance of these notes when M. LeBronnec would pass on suggested that, with her French origin and command of the language, Marie-Hélène might be able to rescue and get LeBronnec's personal interpretation of these notes. With the aid of a grant from the American Philosophical Society, she spent two months at Atuona, Hivaoa, Marquesas, home of M. LeBronnec. She was able, in spite of his failing memory, and suspicion of her motives by some of his family, to make annotated transcriptions of most of the LeBronnec notes and to borrow his plant collections for study. She was also able to make valuable new collections of the not too well-known flora of these islands. This got her started in work toward a flora of the Marquesas, and enroute she was able to visit several atolls, especially the enormous atoll of Rangiroa, in the Tuamotus. This was the beginning of her lasting interest in French Polynesia, especially its many atolls. A second visit to the Marquesas broadened this interest and led to visits to other atolls in this region.

An opportunity to make a rather detailed reconnaissance of Tetiaroa Atoll, Society Islands, with me, on behalf of its proprietor, Mr. Marlon Brando, served to mature her understanding of atoll floras and the ecological processes taking place on such atolls. These and several other visits to French Polynesia, led to descriptions and floristic treatments of a number of atolls in the French area of the South Pacific. In 1982 she had first-hand experience with hurricanes and their role in the vegetation and geography of atolls, when several successive such storms devastated some of the atolls she had visited, and one of which occurred while she was in Tahiti. She was able to fly to several Society Islands atolls immediately after this storm and to record some of the results.

One of her projects that originated with her work in eastern Polynesian atolls was a detailed study of a widespread but rare atoll species of the genus *Sesbania* (Leguminosae-Fabaceae). This was *Sesbania coccinea* L.f. a lovely-flowered small tree, which exhibits island to island variation from Henderson Island and the Marquesas clear across the Pacific to New Caledonia and the Loyalty Islands. She finished a definitive paper on this and related species, and was to take it to Paris for submission for publication on the day after she fell finally ill. It is now in press in *Adansonia*.

Her last two visits to the islands were in 1985, to Tahiti for the International Coral Reef Congress, with a short fourth visit to Tetiaroa to assess recovery from the hurricane damage. Two months later, a visit to the small high Society Island of Maupiti, resulting in a flora, published herewith.

Her untimely death, July 19, 1986, left many tasks unfinished, much information unrecorded, and a loss of an encyclopedic source of help and advice to others interested in coral islands, volcanic islands, and Pacific geography.

The project on coral island ecology, of which the foregoing is a sketchy outline, illustrates and leads to several observations on long-term scientific projects. One, perhaps a truism, is that they are never finished. The more one discovers the more avenues open out for further investigation. Two, they result in a continuous stream of facts and conclusions, which, if not written down and published, will eventually be lost. Three, that it is poor economy not to provide intelligent and competent help to save the time of professional investigators. A good secretary, or even a competent file-clerk with some scientific experience would have saved a great deal of Marie-Hélène's time and energy, and much of what was in her head would now be available. Much, even of what she wrote down is unrelated or out of context. We had, for the first years, a well organized filing and retrieval system for our coral island information, and for biogeographic information generally, but it became too much for two people to handle and keep in order. A competent assistant to devote full time and attention to this augmenting mass of information under our direction would have paid off many times over, but we only had such a person for a short period. Finally, if there had been a reasonably assured source of support for our island work, a great deal of time spent in writing grant applications and proposals, energy spent in worrying even about continued funding for printing costs of the Atoll Research Bulletin, would have been saved and used for the work in hand. There is much to be said for assured continuing support, as may be seen in many European institutes, and in projects supported by our major foundations in the U.S., viz. Carnegie Institution, Rockefeller Foundation, etc. as compared even to successful "hand-to-mouth" enterprises such as even our major institutions and universities seem to favor, or perhaps are inevitable in a tradition of fiscal year budgeting and funding.

Marie-Hélène's list of publications and the list of papers published in the ARB speak for themselves as to our success, but given more continuity, especially in the area of technical and clerical help, this tangible success could have been more impressive.

We probably spread ourselves too thin, but the rewards of breadth of experience and the resulting understanding are not negligible. It is only a pity that so much has to die with us.

[For some small indication of the products of the kind of understanding referred to, see the article on "A Qualitative Description of the Coral Atoll Ecosystem", and the symposia "Climate, Vegetation, and Rational Land-Utilization in the Humid Tropics" and "Man's Place in the Island Ecosystem." (Proceedings of the Ninth and Tenth Pacific Science Congresses.)]

[If there seems to be rather much mention of my own part in this saga, it is because we worked closely together throughout these 36 years, and it is really impossible to sort out our respective contributions. I think it is safe to say that without the participation of either one of us this long-term series of investigations, at least in anything like the form described above, would not have taken place. That is not to say that extensive and important studies of coral reefs and islands would not have been carried out. They obviously would have. But the story would have been different. I am glad to have been able, here, to place on record my acknowledgement of Marie-Hélène Sachet's contributions to knowledge of coral islands. Her work on high islands and other enterprises, certainly very substantial, is another story.]

References cited:

Wiens, H.J., 1962. Atoll Environment and Ecology. New Haven and London. 532 pages.

TRIBUTES TO MARIE-HELENE

When I sent the notice of the passing away of Marie-Hélène Sachet, we had not thought of a memorial issue of ARB, so I did not solicit impressions, especially not with any idea of publishing anything, nor did I anticipate such a response. However, many dozens of her friends did respond, most, of course, in a very personal manner. In some of the responses were paragraphs that, selected and taken together, give a very appreciative picture of her personality, and that seem worthy of preservation. Others equally sincere and laudatory were on such a personal level that it might not have seemed appropriate to include them. The following were selected not to be repetitious, and, taken together, well express our appreciation and sense of admiration and of loss. My selection was guided by what she would have liked and also by her deep sense of privacy. I hope these excerpts do not leave too much of importance unsaid. My own sense of loss cannot be adequately expressed, but may show through in what others have said.

F.R. Fosberg

Des yeux vifs, un esprit acéré, une mémoire fine, une silhouette un peu courtaude, mais surtout de la gentillesse et de l'amabilité qui ne se laissent pas compter, et beaucoup de courage pour arpenter les vallées et les montagnes, parcourir les plages coralliennes, voilà Marie-Hélène Sachet, botaniste française qui a travaillé pendant trente ans à la Smithsonian Institution de Washington, spécialiste des îles du Pacifique et qui vient de s'éteindre le 19 juillet 1986; avec elle, s'éteint une grande amie de la Polynésie.

R. Koenig

I remember fondly my first meeting with Marie-Hélène, at the Coral Reef meeting in Miami. Though I do not know that she remembered meeting me at that conference when I later got to know her better, Marie-Hélène had already won a very special place in my heart. She had made a point of coming to listen to my paper, my first at a large conference, and took it upon herself to let me know afterwards what she thought of the presentation. Then, as on so many occasions afterwards she was full of constructive criticism. It was doubtlessly not a very polished presentation, and Marie-Hélène was not guarded in her critique, but at the time it was a tremendous boost to me as a doctoral student to have someone pay such attention and give so generously of her advice.

Colin Woodroffe

I had not known Marie-Hélène for very long; I first met her on Rarotonga in 1983 when she castigated me, in her own inimitable style, for not bringing her some pineapples from Mangaia. It was not until last year, around the time of the Coral Reef Congress, that I came to know her better. Even though this period of acquaintance was brief, she was enormously kind to me. The few letters that I have from her attest to her interest in my welfare and in the direction of my scientific career. In the latter regard, I feel that it was a great honour to converse with such an authority on the islands of the Pacific Ocean.

Tom Spencer

Anne and I were very sorry to learn that Marie-Hélène had passed away and I should have written to you much earlier. I always think of her at the UNESCO Symposium at Abidjan, but I must have met her before that. She had a very clear incisive mind and made a valuable contribution to vegetation studies. We shall all miss her.

P. W. Richards

During my visits to Washington to work on tropical plants you were both very helpful to me. There is no question that Marie-Hélène left her mark on Pacific botany.

Chris Davidson

I was deeply saddened to learn that Marie-Hélène had passed away. I honestly believed she was indestructible.

I know that I will miss her, even though I did see her so infrequently. She will be missed and her contribution to botany of all these remote islands as well.

Of course, you know how much I owe her. I learned from her how to be a professional and have always held her up as an example in my career.

Elizabeth S. Udui

I am so sad to learn your news of Marie-Hélène.

I was especially impressed when we last met, in Tahiti, with her fearlessness. In particular I remember an evening discussion with her there when she freely admitted to "feeling" the importance of nature, not just measuring it ... Oh, how sorry I am there are so few biologists like her, I lament her passing.

Katy Muzik

I see her now, so upright, so probing, and with such kindly humor, working along with you in all your manifold investigations. I deeply sympathize with you on this tragedy.

Helga & John Corner

Sri Lankan colleagues, especially the Collaborators of the Flora of Ceylon Project, are deeply saddened by the loss of this admirable scientific colleague and good helpful friend, Marie-Hélène Sachet.

Magdon Jayasuriya

I was always certain of a warm welcome and helpful advice whenever I have been in Washington.

Her contribution to coral reef science will of course keep her name alive for many who never had the privilege of knowing her.

David Griffin

I am writing to express my sympathy, and also the sense of loss I know reef scientists will feel on hearing the news of her untimely death. She will be much missed by her friends and colleagues, but her contribution to floristic knowledge of the Pacific Islands will always be remembered.

Barbara E. Brown

It must be a great blow to you that Dr. Sachet has died. Your names have been linked together in so many useful papers that will keep her memory alive to the workers interested in the Pacific flora. I offer you the sincere condolences of our staff.

C. Kalkman

She has done so much and still had so much to contribute.

Brenda Bishop

Your card-announcement and brief note that Marie-Hélène is no longer with you hit like a ton of bricks. I was totally unaware that she had been ill, and I am unhappy that I never thus gave her any expression of concern, understanding, commiseration and sympathy. The combination of you two was one of the most fertile and productive in science that I have ever known.

Frank E. Egler

The letter that contained the information about your dear lady having passed away was either misplaced or never got to me. I was saddened to hear from you that she left us but then as I walk along the beach and look at the shells in various stages of decay, and witness to all things changing and returning to their original components, I realize without alarm that this will happen to me as well. It's a part of the incomprehensible cycles and there is nothing to fear in anticipation of that change. I'm reminded so often here on the island that everything is in a constant fluid state and nothing remains the same from day to day and every new day brings in new difference. Sadness and a sense of loss wears away and changes too. If we can just learn to let go and not try to desperately hang on to a nonexistent changeless world, then it makes it a lot easier.

Marlon Brando