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The Hunt Institute for Botanical Documentation, a research division of Carnegie Mellon University, specializes in the history of botany and all aspects of plant science and serves the international scientific community through research and documentation. To this end, the Institute acquires and maintains authoritative collections of books, plant images, manuscripts, portraits and data files, and provides publications and other modes of information service. The Institute meets the reference needs of botanists, biologists, historians, conservationists, librarians, bibliographers and the public at large, especially those concerned with any aspect of the North American flora.

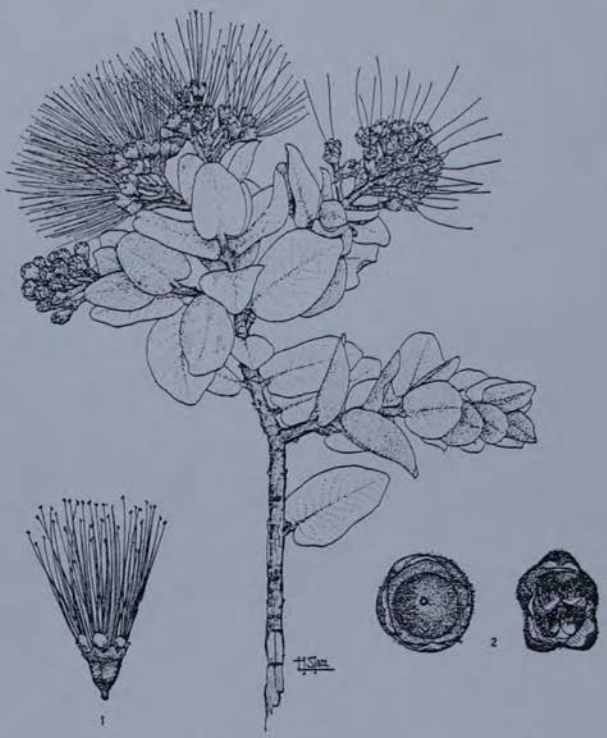
Hunt Institute was dedicated in 1961 as the Rachel McMasters Miller Hunt Botanical Library, an international center for bibliographical research and service in the interests of botany and horticulture, as well as a center for the study of all aspects of the history of the plant sciences. By 1971 the Library's activities had so diversified that the name was changed to Hunt Institute for Botanical Documentation. Growth in collections and research projects led to the establishment of four programmatic departments: Archives, Art, Bibliography and the Library.

Page design, ohia lehua, from the book, Plants Hawaii National Park by Otto Degener.

Paradise of Pacific
Xmas 1948

LEGENDS OF ANCIENT HAWAII

by Grace Tower Warren



Leucaena glauca (Vi Vi).—Mr. N. A. R. Pollock, Senior Instructor in Agriculture, writing under date 1st September, 1936, stated:—"Some fifteen years ago note was taken of the partiality of stock, horses and cattle, to the foliage of a shrubby growth, *Leucaena glauca*, commonly known as Vi Vi. On looking up references, it was noted that in Hawaii (I think) when horses ate freely of it they suffered loss of hair from both mane and tail. The analysis from the Department, 29/10/21, was as follows:—

Leaves and Twigs.

Moisture	8·06
C. protein	25·75
Carbohydrates	46·55
Crude Fibre	9·00
Crude Fat	2·64
Ash	8·80

As you know, the shrub is quite naturalised in North Queensland. A thicker growth was noted at Macknade on the Herbert River and again at Bowen, the sample for analysis being secured at the latter place." When in Bowen in July last, Mr. Pollock was reminded of a conversation he had had with a local stockowner, some fifteen years ago, whom he informed of the legend concerning loss of hair from mane and tail. The stockowner vouched for its truth. "He had a horse running during a dry period in a paddock where there was little else than Vi Vi for its consumption. Though it retained good condition and appeared normally healthy the hair fell out of the mane and tail, though not from other parts of the body. Transferred to another paddock in which there was no Vi Vi the hair commenced to grow again on the denuded parts."

Report of Journ. Botanist, Dept. Agric. & Stock, No. 7. 1937

MOATS FOR AFRICAN SNAILS

Editor The Advertiser:

EDITOR'S NOTE:

The Advertiser has a letter from Otto Degener, botanist and naturalist entirely too long for publication here, taking issue with the Board of Agriculture and Forestry which was quoted as saying that "African snails cannot be eradicated." In this connection he says:

"We have bulldozers that can isolate infested areas by surrounding them with firebreak-like moats dug to subsoil levels. We have refinements in chemical vermin killers that can make such moats absolutely deadly to the passage of the snail. We have other chemicals that can gradually reduce the snail population in the infested areas to nil; the herbicides and flamethrowers that can kill and poison their food plants."

5: Hon. Adv. 4/17/40

4 & 12 **Capt. Honolulu's Favorites, 9; Pineapples and People, 11:45; Lunch With Soupy Sales, 12; Texas Rangers, 12:30; Western Theater, 1; Lone Ranger, 2; Aloha State Farmer, 2:30; "Useful Native Plants of Hawaii," with Dr. Otto Degener, Bishop Museum; Jubilee, USA, 3; Roller**

By Frances Lincoln

HOLUALOA, Hawaii, July 16 — Though less well known than the coconut tree, the breadfruit, or ulu, is a symbol of tropical islands. Would not a breadfruit leaf with rich fruit pendent be better on our island flag than crosses borrowed from a foreign country?

A PUNI O KONA
ALL AROUND KONA

The ulu is bearing now. Tourist, it's the big tree with tremendous leaves cut so far in toward the midrib that the whole thing looks like a huge floppy hand with too many fingers. The fruits are as big as melons and green or, when ripe, slightly yellowish.

Ulu trees are not plentiful. The difficulties in propagating them make it a marvel that they have been carried in migrations to so many lands from their native Sunda Islands.

When we consider the many failures that can precede growing one ulu straight from a nursery, sure kela it must have taken some rattling good kahuna work to have a tree survive a canoe trip from Tahiti to Hawaii.

Seedless, they grow with difficulty from cuttings. Injury to a rambling old root near the ground surface causes a new tree to shoot up at that spot. When it is big enough it is transplanted, with a section of the parent root attached.

What a wealth it would be for Hawaii if the ulu were as hardy and prolific as the guava. For the wood is long-lasting, hard, not inclined to split, and light yellowish in color.

Formerly grass houses had doors of ulu. It is used for gunwales of canoes and for paddles. Commercially long ago, outside of Hawaii, it was used to make hubs of wheels.

A purging medicine was made from the bark, and the sticky gum was used to capture birds.

Before calico arrived, bark of the tender young stems, says one learned book, was one of the lesser materials for tapa-making.

A staple food of the South Seas, very little of it is used in Hawaii as mea ai for human beings. In Kona, the heavy fruits that drop so abundantly in pastures, back yards and coffee land, or on the roadside, are mostly fed to livestock. Gathering is a small farmer's small boy's job.

To a cow, an ulu is ice cream, and the appetite of cattle for the leaves is one of the hazards of the young ulu tree's life.

Though the many Pacific peoples have their ways to use breadfruit — that's another story — in these Islands in these times the tree is less honored by cooks than by artists.

More ulu are seen in carvings, paintings, and on muumuu textiles than are growing in the lepo or cooking in the pot.

The breadfruit has always been a favorite among the traditional patterns for Hawaiian quilts.

The leaves, besides being a designer's delight are used for polishing. The kukui nuts for jewelry, when things were done by hand, were polished with the leaves.

The largest fruit, it is said, grows on the lower branches, and this may have inspired an old proverb.

"Kii ka ulu i ka wekiu i ke alo no ka ulu a hala."

This, as explained by Frederick W. Beckley, University of Hawaii instructor in the Hawaiian language during the twenties, would be literally, "Reach high for a breadfruit and you may miss the one before your face."

Figuratively: "The person doing all the work and helping you may be unrecognized while you look far forward."

Also, "If you don't look out, you may miss help near at hand," and "Those high in authority are likely to forget the faithful."

A traditional interpretation is for the young kane who goes mate-hunting in distant pastures: "The man looking afar for a wife may miss a good woman near home."

A Welcome Addition

FLORA HAWAIIENSIS. THE NEW ILLUSTRATED FLORA OF THE HAWAIIAN ISLANDS. *Book 5. By Otto Degener. Available from Dr. Degener, Waialua, Oahu, Hawaii. $5.00.*

This publication is a welcome addition to the store of knowledge of plants of the Hawaiian Islands. It is a "must" for anyone who already possesses Books 1-4.

Made possible by a grant from The National Science Foundation, Dr. Degener, with the collaboration of Mrs. Degener and other taxonomists, has prepared detailed descriptions of species, with location of the type and the range of the plant on the Islands and elsewhere. Keys have been developed when several species of a genus are being considered.

The reader will find many items of human interest. For example, the author states that children who are great tree climbers should beware of the elephant ear (*Enterolobium cyclocarpum*), since the branches are brittle and the bark, very smooth.

Many plants bear the specific name *Degeneri*, indicating that they were first described by the author. The genus *Degenera*, named in his honor by a fellow botanist, is not included in this volume.

In 1952, Dr. Degener received the honorary degree of Doctor of Science from his Alma Mater, the University of Massachusetts, in recognition of his outstanding work on the Hawaiian flora.

The brief biographical sketch of Dr. Wilhelm Hillebrand (1821-1886), physician and botanist, is informative and interesting. He introduced many plants and birds to the Islands, though everyone was not a wise importation, Dr. Degener states. His name, therefore, is commemorated in the genus *Hillebrandia*, closely related to begonias.

The Foster Botanical Garden in Honolulu was the original homestead of Dr. Hillebrand. This accounts for the age of the numerous, beautiful specimen trees on the grounds.

—C. L. T.

HORTICULTURE

Food Production Suggestions

By GWENFREAD ALLEN
Farm and Garden Editor
The Star-Bulletin

The stickers that cling to your clothing when you cross a vacant lot may be simply an unadulterated pest, as far as you're concerned; but Otto Degener, a staff member of the New York botanical garden, says they belong to one of the "edible plants about us."

Spanish Needle

He writes:

"If you have taken a short cut across any vacant city lot or brushed against roadside plants, you probably have two or three pronged, black, needle-like stickers holding on to your clothing. These are the seeds of the Spanish needle or beggar's ticks called Bidens pilosa by botanists.

"This weed grows practically everywhere excepting in dense shade. It is too common to require a description.

* * *

"The tender, young shoots and leaves of the Spanish needle furnish a palatable potherb. Boil them once and discard the resulting yellowish water. Boil a second time with fresh water, drain thoroughly and season with salt, pepper and butter before serving.

"I have been eating a mess of Spanish needle greens as a substitute for spinach off and on during the last month and enjoy the dish. Try it."

* * *

Any one having seedlings available for free distribution to home gardeners is asked by Dr. F. E. Armstrong, chairman of a citywide garden committee, to get in touch with him. Several persons have already informed him of available seedlings, he says, and he and his committee will be glad to pass the word along to gardeners who can make use of them.

BULLETIN
OF THE
NEW YORK ACADEMY OF SCIENCES
and AFFILIATED SOCIETIES

XXVIII Week of 4 December, 1933 No. 10

Monday, 4 December, 8:15 P. M.
At The American Museum of Natural History
Seventy-Seventh Street and Central Park West

Jeanne Booth Johnson collection

Dancer at the turn of the century wore a variety of leis, wove in many different styles.

By JEANNE BOOTH JOHNSON

Hon. Ddd. 9/4/60

When you wear one or more of the many and varied leis available nowadays in the 50th State, have you ever stopped to wonder what kinds of leis the old Hawaians wore, years ago?

Back on Jan. 6, 1825, the wife of missionary Charles Samuel Stewart received a present from an Hawaiian Queen . . . which started him thinking a bit and recording the following in his journal:

"The young queen Kakauonohi has just sent a little present to H——(Helen Stewart), which reminds me of saying something on a subject which has often attracted my observation—the fondness of the natives for ornaments of the head and neck; and how much in their view 'full dress' consists in proper attention to these.

* * *

"THE PRESENT is a neatly formed triple wreath of orange coloured flowers, the blossom of the 'ilima, a handsome shrub from two to four feet high, which, on account of its bright hue and delicate perfume, is cultivated on almost every plantation, expressly for the purpose of wearing on the head and neck.

"Though so simple in character, it probably cost the persons who made it, almost, if not quite as much time and patience as many a more valuable one has an expert milliner, in more polished nations. It is about two yards in length, and is formed, not by arranging the flowers together in the state they are in when broken from the bush, but by carefully separating the calyx and corolla of every blossom and stringing the latter through the centre, so closely together that nothing is seen, when the wreath is completed, but the edge of the petals.

"I have seen the princess with eight or ten yards thus formed on her head and neck at one time, and though each wreath is half an inch or more in diameter, the effect, as an ornament, was light and graceful.

* * *

"THESE WREATHS form the most common ornament of the head and neck, and every high chief is furnished with three or four yards of them every morning.

"A kind equally common among the chiefs, but more highly valued on account of their stronger perfume, are formed from a part of the fruit or berry of the hala . . . These also are of a bright orange colour, but more heavy and less becoming than the former.

"On public occasions, the chiefs generally wear feathers only, both for coronets and necklaces. These are generally yellow, but often formed as successive clusters of red, yellow, green and black feathers.

"An ornament for the neck formerly much worn by the high chiefs, but now confined almost entirely to those of inferior standing, is the palaoa. It consists of a greater or less quantity of finely-braided human hair, fastened together so as barely to encircle the neck, having a hooked or highly polished ornament, made from the tooth of a whale, attached to the middle in front.

"Some of these contain 60 or 80 yards only of the braid, while others consist of 400 and more; they are all hereditary badges of rank, and are only worn by those who have some claim to chieftainship.

"The use of this last is principally confined to females; but all others are worn indiscriminately, by both sexes.

* * *

"ANOTHER FAVORITE wreath for the neck, from the king to his pipe-lighter, is composed of loosely arranged clusters of the 'maile,' an aromatic vine, found in great abundance in the mountains, not unlike the myrtle in the shape of its leaf, but of a more lively colour.

"The handsomest wreath I have ever seen, not entirely of feathers, was one worn by Kaahumanu the morning she last left Lahaina, in September. It consisted of yellow

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enabling the latter to set seed. There were no such wasps in Hawaii, and in order to render the local fig trees seed-producing, it was evident that their specific wasps would have to be introduced.

"This seemed a simple problem," Lyon says, "for we knew that our entomologists were accustomed to go even to the ends of the earth, if need be, to bring back live beneficial insects. We therefore selected from among the figs already present in Hawaii the species that seemed most suitable for forestry purposes, and asked the entomologists to get the proper wasps for us. We realized that the task would require time, but we were confident that it would ultimately be accomplished."

When C. E. Pemberton went to Australia in 1920, his major project was the study of Australian figs and the wasps associated with them with a view to introducing both in Hawaii. Two species, the Moreton Bay fig and the Port Jackson fig, which were already established in Honolulu, were furnished by him with the proper wasps.

That this project is feasible, Dr. Lyon explains, has been proved in the particular instance of the single large Port Jackson fig tree on the slopes of Tantalus above Makiki Heights in which wasps sent from Australia were liberated some time ago. The tree produced viable seed in great quantities and, a year or more after its wasps had become established, a similar change took place in the fruits produced by a fig tree on the premises of Dr. A. L. Dean in Manoa valley.

An examination showed that that, too, was a Port Jackson fig, and that its fruits were infested with wasps and contained fully formed seed. The insects had found their way to Dr. Dean's tree from the tree on Tantalus, over a mile away in a direct line, and had traveled over the slopes of Round Top, making a considerable part of their journey against the trade winds.

"This was considered a remarkable feat for such minute creatures," he says, "until it became known that they had traveled unaided to such remote places as the forests above Wahiawa and Laie, where there are now fruiting specimens of their host tree, developed from seedlings planted six or eight years ago."

A third Australian fig is now producing an abundance of young fruits which never matures because its wasp has not yet been introduced, all specimens having been grown from seed collected in Australia by Pemberton, who expects to be able to ship its wasp from Queensland and before long.

Meanwhile, the first undertaking in the active promotion of the fig project was the raising of young plants and the distributing of them as widely as possible throughout the islands. Since the local trees did not produce seed, the foresters had to import seed from abroad or rely on propagation by cuttings.

In multiplying and distributing the fig's reliance was not placed solely on the species already present in Hawaii, but seed of as many types as possible was secured. Young plants were grown from these and were set out on the forest lands to determine which species grew better under local conditions and produced trees most suitable for inclusion in Hawaii's forests.

Wasps Necessary

"It is perfectly safe for us to play with figs in this way," Dr. Lyon says, "for none of them will spread naturally until we introduce their wasps; so, if trees of any species show undesirable characters or habits, we simply neglect them, knowing that they will never spread.

In the past 10 years, the department has secured seed of some 80 species, has grown the young plants at the Vineyard St. nursery and has sent out seedlings for trial planting at many points. The trees, which survive in such situations, may eventually become seed-producing and serve as a focus for the dissemination of their species if the necessary wasps are introduced.

"Of all the fig trees which we have tested out to date," he states, "the Chinese banyan appears to be one of the very best for our purposes. Fruiting specimens of this type are numerous in Hongkong, and from there we have tried to secure the proper wasp, but all of our attempts up to the present time have failed. We are now devising schemes whereby we believe we shall be able to bring those insects through alive."

Suggests Airplane

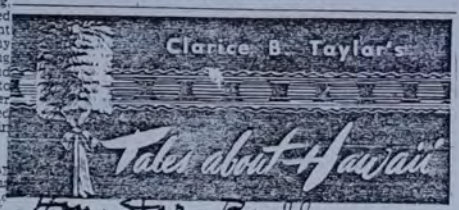
It follows, naturally, that if fig seeds will germinate and develop into trees when sown in elevated positions by birds, they should do the same if sown in similar positions by the hand of man. Therefore the experiment of throwing seed into such positions was started by the foresters when traveling through the forests on foot; and, later, thriving fig seedlings were noticed in those positions.

"Why then," Dr. Lyon asked, "would it not be possible to fly over the decadent forests in an airplane, dropping fig seeds wherever favorable conditions seem to exist for their reception? Naturally, most of the seeds so dropped would land in situations where it could not grow and thrive, but if one tree eventually matured for every 100,000 seeds so sown, the results would be worth the effort. Enormous numbers of fig seeds can be obtained at little expense, and a reasonable number of them could be deposited where they would germinate and produce trees in situations practically impossible of approach in any other manner.

"The air service of the U. S. army has shown great willingness to assist us in this endeavor, and already many sowings of seed have been made from army planes on the forest reserves of Oahu. On one occasion, on a visit to the island of Hawaii, several planes distributed seed over the Panaewa forest reserve, much of which had been laid waste by fire.

"We have learned many interesting and helpful facts regarding the culture and propagation of figs," he concludes. "Our project has passed the critical tests and we can proceed with its further elaboration with every assurance that we are laying the foundation for a natural and permanent rejuvenation of our

MONDAY, AUGUST 29, 1960



Abraham Fornander and S. M. Kamakau

The story to date: Abraham Fornander, the towering intellectual of the Hawaii scene in the 19th century, was born in 1812 into a scholarly family of South Sweden. He came to Hawaii in 1838 as a common seaman and engaged in whaling, raising coffee and surveying. His public career began in 1842 as editor of the Weekly Argus. He served as editor of the government organ, The Polynesian; was the first School inspector and was eventually taken out of politics by his appointment as a judge to the Maui Circuit Court. It was then he did his studies, which are today considered the greatest storehouse of Hawaiian Legend and history.

It has become the fashion in modern times to berate the New England missionaries for their lack of interest in Hawaiian folklore. Those who berate, forget the Reverend Sheldon Dibble, teacher of history at the Lahainaluna School at Lahaina, Maui.

Dibble must have been a most inspiring teacher. It was he who produced the Islands' first history, "History of the Hawaiian Islands," and it was he who produced Hawaii's great scholars David Malo and S. M. Kamakau.

When Dibble organized the first Hawaiian Historical Association in 1841, he taught his students how to cull the Islands systematically for all historical material, to assign subjects to different persons and keep the material in the hands of a society secretary.

GREAT FRIENDS

Kamakau followed Dibble's instructions. He traveled from one end of the Hawaiian Islands to the other collecting the material which he began to publish in 1862.

Just when he became a friend of Fornander we do not know. But Fornander leaned upon his material and encouraged him to collect. He probably paid Kamakau from his own pocket.

The two men were great friends. Each was quarrelsome and conceited—but, neither quarreled with the other. Kamakau died in 1876 and it was after his death that Fornander admitted having often questioned Kamakau on his statements.

Fornander accused Kamakau of being "credulous" in accepting certain versions of legends and genealogies.

Until we have a published Kamakau, it is almost impossible to tell which historical legend Fornander took from Kamakau and which he rejected. We do know that Fornander acknowledged Kamakau as the main source of his material.

One difficulty encountered by Fornander was Kamakau's changeable disposition. Kamakau was an ardent Protestant when he began his writing. Then he became a Catholic and ended by throwing off Christianity. Certain of his statements changed with his religious beliefs.

Kamakau was a voluminous writer. An index of his writings fill eight pages of fine type in The 26th Annual Report of the Hawaiian Historical Society.

NEXT: Fornander and his Polynesian Race

Hewahewa and Kuhio

Editor the Star-Bulletin: Father Damien, like so many other religious and lay helpers at Kalaupapa, was a great humanitarian; but that we should select him for commemoration in Statuary Hall in Washington ahead of Mr. Dutton or all other men and women who labored at the Settlement on Molokai may not be strictly just.

The desire for his selection seems colored by the fact that Damien suffered from leprosy, a disease he may have contracted in Europe long before he ever reached our shores and not necessarily in the line of duty.

Among Hawaii's native population are many outstanding individuals. My choices for commemoration in Washington are (1) High Priest Hewahewa who resigned his office and with Queen Kaahumanu helped the Hawaiians forsake their pagan gods several years before the coming of the haole missionaries in March, 1820, and (2) Prince Kuhio, the late, well-known legislator.

OTTO DEGENER
Waialua, Oahu

ALOHA TOWER

By DR. A. W. SLATEN

SEEING A SCIENTIST IN HIS WORKSHOP is an exhilarating experience. There's Otto Degener, for instance, one of Hawaii's distinguished botanists. An hour or two with him in his bachelor quarters on Mokuleia beach took this writer to the peak of Mt. Helicon, where the Muses dwell.

\# \# \#

It's impressive how any kind of superb craftsmanship—though it be altogether unrelated to your own line of work—inspires you to tougher trying for the ideal. It may be music, it may be acting, it may be photography, it may be portraiture, it may be sheer clear thought—it may be anything, for whatever is done well stimulates us to do our own task better. There is, so to speak, a comradeship of craftsmen all the world over, and one artist spurs on another.

\# \# \#

Degener is an artist in the discovery and identification of hitherto unclassified Hawaii plants. He takes his car and its trailer, establishes camp, then fraternizes with fields, tracks mountain trails, searches sides of streams—hunting out hiding places of shy specimens that have escaped their merited note. Patience is his philosophy and a pressed plant his reward.

\# \# \#

The plant is taken to camp, carefully studied, accurately catalogued as to genus, species, subspecies, variety, subvariety, mutation, hybrid, sport or anything else it may be. It is properly pressed, sent to the mainland for mounting on sheets of paper—work which is done by skilled women employes of the government—and is deposited as a loan with Bishop museum. The plant's story goes into that Who's Who Among Hawaii's Botanical Incognitoes—Degener's Flora Hawaiiensis, three volumes of which already have appeared.

\# \# \#

You might think that around the dwelling place of a botanist you would find a profusion of rare and beautiful flowers. Not so—in this case, at any rate. Muscovy ducks waddle and quack, guinea hens chatter their endless gossip, pigeons nest in cans on the ironwoods, ingeniously protected by spring traps that make any venturesome rat a suicide. But about the only plants are ironwoods and coconuts. For one thing, Mokuleia sand is not surcharged with sustenance. For another, a botanist is a botanist and botany as a science is like anatomical dissection—it deals with the dead.

\# \# \#

It's an inspiration, though, to be in Degener's den, to see the scientist in his workshop, the Flora Hawaiiensis proofs he is reading, the pressed plant specimens he has on hand, the scholarly books all about—and, best of all, to listen to Degener talk.

\# \# \#

Mokuleia beach is a long way from Mt. Helicon, but a visit in the scientist's workshop takes you instanter to the place where the Muses dwell.

\# \# \#

Moral for everybody is: Do your work the best you can. Put into it everything you have. Make it as nearly ideal perfection as you—with your inner and outer limitations—are able to achieve. Thus you will inspire others in utterly unrelated endeavors and, too, you will win for yourself a diploma of membership in the Comradeship of Conscientious Craftsmen of the World!

ists.

LIKE HAWAII, the Madeiras are of volcanic origin, the volcanic soil lending a special quality to the wines. They were discovered in 1418 by the Portuguese navigator Zarco.

Hon. Star-Bull. 7/7/60

Some seemingly contradictory figures about poi are being offered these days.

A recent market study says taro marketings declined 27 per cent between 1947-1949 and 1957-58. (See page 7, sports section.)

But Oahu's poi makers say that poi, the chief taro product, is finding a bigger and bigger market all the time.

CONVERTS

Younger Hawaiians seem to be getting away from the traditional fish and poi diet, but poi makers say this loss is more than offset by the new converts the sticky, oft-criticised substance has won.

Items:

More people are coming into the State and more of them—"even haoles"—are learning to like poi.

Whereas only Hawaiians once relished the dish, Orientals are now eating it regularly "for nutritional value."

Improved marketing techniques with clean, sanitary easily storable plastic bags influence sales upward.

Exports in recent years to the Mainland have stepped up, largely going to Oriental stores catering to ex-Islanders.

BOOM ON OAHU

All of these factors combined add up to a $1 million poi industry on Oahu—compared to only $300,000 to $500,000 a decade ago—according to Michiro Endow, Haleiwa Poi Factory owner.

But freight costs, coupled with increased costs of marketing, labor and processing, have raised the poi price.

The higher price has put the product in a middle income bracket, according to one poi mill manager.

"Lower income people who must have it buy it in bigger quantities and get the old fermented poi at a bargain price," he said.

OPTIMISM

Baron Goto, University of Hawaii Agricultural Extension Service director, comments:

"The price of poi may go much higher than it is now, higher than any starch food, but the demand for poi will not decrease as long as we have a prosperous tourist business because tourists must go to a luau and taste poi."

Hon. Adv. 9/5/60

The sleepy Madeira Islands — home of many of the thousands of Portuguese immigrants to Hawaii—are yielding to the demands of the jet-traveling tourist for new lands to see, if not to conquer.

Bulldozers are grinding flat the hills of Porto Santo, hurrying to ready the jet airport scheduled for inauguration in October.

\# \# \#

PORTO SANTO — where Christopher Columbus wooed and wed the governor's daughter—is the only inhabited island in the group besides the principal and largest island of Madeira.

It was from Madeira in the late 1800's that Portuguese whalers sailed to the Hawaiian Islands, many of them to stay.

Others came from the Azores, but most of Hawaii's Portuguese trace their ancestry to tiny Madeira, a 282-square mile dot in the Atlantic 340 miles west of the coast of Morocco.

\# \# \#

THE SAILORS brought with them a miniature stringed instrument called the braginha, which was Hawaiianized to ukulele.

Hawaiians loved the instrument and copied its design in koa wood, recognized today as the best wood for making ukes.

They also introduced the Hawaiians to the famed, tasty Madeira wines — despite the protests of the missionaries.

Madeira today is still the quaint land where the peasant-farmer tills the soil with a wooden plow drawn by an ox or a donkey, but the roar of the jet is coming.

About 280,000 people live on Madeira, 90,000 of them in the capital city of Funchal. A new hotel, the Santa Isabel, is going up in Funchal to accommodate the coming surge of tourists.

Hon. Star-Bull. 8/29/35

This is one of the "Believe It Or Not" entries in the second annual national contest conducted by Robert L. Ripley, Believe It or Not cartoonist. Each one here published was entered by a Star-Bulletin reader in Hawaii. The original copies of this and other entried printed daily in The Star-Bulletin have been forwarded to the contest management in New York.

THE WIDEST BANYAN

Lahaina has the oldest and widest banyan tree in Hawaii and the United States. It was planted in 1860 by U. S. Senator W. O. Smith. Its measurement, which I sent to both territorial and federal forestry services, show it to be 175 feet wide. The tree is now 75 years old.

JOHN NEDDERMEYER,
Box 141, Lahaina, Maui.

Then hoses are distributed properly to assure even circulation of the gas. Since methyl bromide is 3½ times heavier than air it must be carefully handled on hilly lawns so that it can be rolled slowly down slopes, evenly spreading its weed-killing fumes.

As the gas is introduced into the tent it is heated. Outside, Fumiseal crewmen patrol the edges checking for leaks with special equipment.

A day later the tent is removed and within several hours the ground is ready for planting.

• • •

While fumigation can be done on any lawn, you have to understand that the gas kills everything, consequently after the job is finished, re-seeding will have to be done.

Generally, however, fumigating is done on land surrounding newly-built houses. Then when a lawn is begun it can be planted without competition from nutgrass.

At present the process is admittedly expensive. But it's also effective. On pineapple land the first year total would probably exceed the value of the harvested crop. But that's only for the first year. Already the Waipio patch is two years old and nutgrass still hasn't appeared. Too, with the absence of the weed the yield of pineapple has risen from 12 to 17 tons an acre to about 35 tons.

Amortizing the fumigation cost over another two years, and adding the increased crop yield, the process should prove very inexpensive.

It is those two additional years that men in the pineapple industry are now waiting to pass. No one knows how long a field can be kept free of nutgrass after it has been treated with the gas. Everyday that passes, however, makes the venture more profitable, more successful.

• • •

The Pineapple Research Institute first suggested the possibilities of methyl bromide gas as a nutgrass killer. And Dan C. Derby Sr., general plantation manager for Libby's, and now retired, called in Fumiseal to handle the experiment on the Waipio and subsequent areas on Maui and Molokai.

Mr. Derby's succinct report: "Very successful, very effective, and very expensive." But he added that the process was most useable on small, heavily-infested nutgrass patches in larger fields.

Libby, he said, has about 50 acres of the weed scattered in thick clumps through some 15,000 acres. And when the present crop is harvested the company plans to kill off these nutgrass concentrations.

In some respects the weed-gas war has a long way to go. But in its waging it is becoming increasingly apparent to many once-skeptical persons that the odds now are more and more favoring methyl bromide.

When it's all over it won't be because of a truce or arbitration. It'll be a dramatic unconditional surrender.

15-D

(15)92. Plants from England brought alive in the Blonde to the Sandwich Islands a nd transplanted May 28, 1825: 1 Anona cherimolia, 1 Anona sp., 1 Psidium pomiferum, 1 Psidium from Sierra Leone, 1 Psidium Chinense, 1 Psidium species from Maranha, 1 Eugenia aqua, 1 Limocarpus longan?, 4 peaches or nectarines, 2 walnuts, 2 figs, 1 plum, 1 apple, 2 cherries, 8 grapes. Plants from Rio de Janeiro: 7 Myrtis virides Laoram-to, 5 Myrtis sp. nov., 3 Mangifera indica, 2 Laurus persia, 5 Citrus nobilis, 12 oranges raised from seed, 2 figs, 8 Eugenia jambos, 30 coffee plants, 1 Datura arborea, 8 grapes (Valpara iso), besides several esculent seeds from Rio and Valpa ra , some of which have already vegetated.

Reviewer Terms New Hawaiiana Book As Scholarly, Very Readable

By DR. OTTO DEGENER
Naturalist
Of Hawaii National Park, 1929;
Author Of Plants

Though published in 1958 by the Polynesian Society in New Zealand, "The Polynesian Family System in Ka'U, Hawai'i," a book of over 250 pages, did not reach our islands until a short while ago. It is a scholarly and very readable result of collaboration between the well-known "haole" anthropologists Dr. and Mrs. E. S. Craighill Handy of Virginia and Oahu, and the beloved 'kamaaina ali'i" Mrs. Mary Kawena Pukui of Kau and Honolulu.

The study deals largely with the life cycle of the Hawaiian, unmodified by alien cultures, of the Kau District. Its completeness and thoroughness is evinced by its range from "Conception, Gestation and Birth" to "Sickness and Death."

★ ★ ★

That infanticide, a myth the reviewer ascribes mainly to early missionary writers, was rampant is exploded, the unnatural and rare pleasure-loving mother who resented being hampered by children, found ready foster parents among a people unusually fond of children. Abortion, under the direction of a medical "kahuna" or the strangling of a new born infant, resulted mainly from misalliance between commoner and chief; no low-born person must survive to claim blood relationship to an "ali'i."

"The Kinship System" is far more complicated than that of Europeans, where any relative beyond that of "second cousin" is vaguely called a "connection." The authors tabulate the Hawaiian terms parallel to those of the Maori, again showing the close bond between these two magnificent sea-faring people. Tutu, now commonly used, we learn, is new-fangled slang.

In "Traditional Manners and Customs and the Social Order", we realize how kindly, polite and hospitable Hawaiians of all classes were, their methods of eating, and their wearing of the "lei"; while "The Dispersed Community" explaines the barter of lowland dwellers with their surplus fish and salt for the upland dwellers' surplus tapa-fibers and banana. The other chapters illuminate other phases of early culture.

A book would be exceptional if it lacked errors. This is not. Page 212 mentions the Floras and authority consulted for the scientific names of the plants used by the Hawaiians. These names are not always correct, nor can they be precise when specific names do not follow the generic.

★ ★ ★

Reading "The Polynesian Family System in Ka.'U, Hawai'i" leaves the reviewer with two impressions:

First, the immense value of such timely collaboration between "haole" anthropologists and "kamaaina" seer. The study is truly based on the "unwritten literature" locked in the best minds of the older Hawaiians, literature that will be forever lost as they join their "aumakua" forebears Beyond.

Secondly, the pathetic and truly frightening change that has come to this fascinating Paradise of the Pacific since its "haole" discovery by Captain Cook, about fifteen centuries after its initial discovery by the Polynesians.

The Hawaiians are losing their culture, even the most delightful and useful phases, to that of Caucasian and Oriental immigrants.

Our Hawaiian mountains are fast becoming poor imitations of Oregon with evergreens, and Australia with Eucalyptus, casuarina and paperbark; our forehills, overrun with thriving exotic weeds, already resemble horrid wastes of almost any part of the World; our steep canyons are being denuded into barren pastures by feral goats and mouflon; our plains are being transformed into drab copies of India with axis deer, or Wyoming with antelope! and our once beautiful shores and beaches are being crowded out toward the Pacific by Miami-like canyons of cement, glass and aluminum.

How fortunate we older residents are to have known Hawaiians more like they are described in the Handy-Pukui study, and to have known the Hawaiian countryside before its phenomenal transformation into something hardly typical of Hawaii.

Pac. Islands Monthly Jan. 1951.

NEW INDUSTRY FOR PAPUA

A Use For Mangrove Swamps

A BORNEO company has received approval from the Commonwealth Government to start a "cutch" producing factory at Kikori, in the Delta Division of Papua.

Cutch is extracted from the bark of Mangrove trees in which the area abounds; it is used in dyeing and tanning and is in demand in USA.

It is expected that the factory will produce about 3,000 tons of cutch annually and that 2,000 local natives will engage in the industry.

Executives of the Borneo company made a survey of the Kikori area in October-November and were impressed with the possibilities of developing the industry.

Douglas fir is the principal wood used in Hawaii. Some 50 or 80 million board feet are imported each year. Though almost everyone knows that the Douglas fir tree grows in the Pacific Northwest, few seem to know that it also has an intimate association with Hawaii. The two botanists for whom the tree is named were both prominent in early exploration of the islands.

Archibald Menzies was the botanist who accompanied Captain George Vancouver in his explorations. He was the first educated white man to explore the interior of Hawaii and West Maui and the first to scale Hualalai. He was also the first white man, possibly the first human, to reach the summit of Mauna Loa. He brought the first orange trees to Hawaii. Douglas fir, discovered at Nootka Sound in Alaska in 1791 by Menzies, bears the scientific name Psuedotsuga menziesii in his honor.

THE STORY of David Douglas, who first introduced the tree to Europe, is colorful. Douglas made three trips to Hawaii—in 1832, 1833 and 1834. Among other activities he climbed both Mauna Loa and Mauna Kea and calculated the heights of these mountains.

While on his way from Kohala to Hilo on July 12, 1834, Douglas fell into a pit dug as a cattle trap, and was gored to death by a wild bull already in the trap. The body was later found and taken to Hilo, where a lengthy examination and inquiry took place to determine the cause of his death.

There was talk that he had been carrying a large sum of money. None was found. It seemed strange to friends in Hilo that such an experienced woodsman could meet such an end. No foul play was proved. Douglas was buried at Kawaiahao Church in Hilo on August 4, 1834.

The David Douglas memorial at Kaluakauka, where Douglas fir and koa grow side by side.

The pit where Douglas was killed came to be known as the Doctor's Pit — Kaluakauka. Today, a memorial stands at this spot and a fine young stand of Douglas fir has been planted there among the koa trees by the Hawaii Division of Forestry, in memory of the man whose name they

Food Production Suggestions

By GWENFREAD ALLEN
Farm and Garden Editor,
The Star-Bulletin

The Hawaiians of old, according to Otto Degener, brewed several kinds of tea from the kokoolau, some 30 different kinds of which grow in the foothills in considerable profusion.

"Kokoolau tea is good with milk or lemon and sugar," says Mr. Degener. "I have been drinking it for many years."

Mr. Degener describes the kokoolau plants as follows:

"They are erect herbs, woody at base, are ½ to 3 or rarely 5 feet high, have thin, simple or somewhat feathery leaves possessing a carroty odor when crushed, and bear at the ends of their stalks a bunch of spreading, bright yellow flowers perhaps half an inch across. Their seeds are blackish to dark gray, long, and may or may not have two or three spines at the end.

Kokoolau

"A close relative of kokoolau is the Spanish needle, found almost everywhere. This looks like a kokoolau devoid of petals. The Spanish needle is not used for tea.

* * *

"The kokoolau grows in the foothills back of Honolulu, along the ridges particularly from Woodlawn to Kuliouou, in fact almost everywhere. It is equally common on other islands.

"Do not destroy the plant. Do not pick the flowers that must mature their seed to produce additional plants. Carefully harvest many of the leaves—not all—dry them thoroughly and guard against their molding.

"When you want a pot of tea, take one or two of the dried leaves, the number depending on their size, and boil them a little until the water turns the color of tea.

* * *

"About Makapuu and Koko Crater you may see a roadside plant called nehe or lipochaeta, resembling the kokoolau in certain respects. The nehe is not the famous Hawaiian tea! Its seeds are fat and often warty, its branches prostrate in one kind and somewhat gnarled and brittle in another. Its leaves are fleshy, or thin and almost sandpapery. Do not use that plan for tea. It is said Hawaiians have used some kinds, but we have not yet tried them."

Hon. Star-Bull.

BIOCHEMICAL research problems originate in many ways, and some of these are strange indeed. Take, for example, the "case of the dancing cows."

This occurred in 1949, when scientists at the Hawaii Agricultural Experiment Stations on Oahu and Maui were investigating new pastures. 1/20/60

One of these, creeping indigo (Indigofera endecaphylla) at first seemed very promising. However, after the animals had eaten this forage for about a month, they developed a dancing syndrome.

The cows would move in circles with their heads bent low, much as a dog preparing to lie down. They were restless, lost weight and appetite, and had other alarming symptoms.

When the cows were placed on feed free from indigo, they apparently regained their health.

SIMILAR RESULTS

Similar results were obtained with rabbits, sheep and chickens.

In the case of chickens, the symptoms were even more striking, with severe paralysis of the neck so that the head was thrust downward and between the legs.

What was the poisonous material in the plant? The answer came almost simultaneously from two widely separated biochemical laboratories, one in Hawaii and one in Puerto Rico.

Strange as it seems, both groups had been working on the problem without knowing about the other's interests, yet both groups identified the toxic material as 3-nitropropionic acid.

How this compound poisons the animal is still a mystery.

BALD WOMEN

A group of women gradually becoming bald was the unusual beginning of another biochemical problem. Some years prior to World War II, a report was published concerning baldness among Javanese women.

It was discovered that loss of hair occurred in families that included in their diet the seed of **Leucaena glauca**, commonly called **"haole koa"** or **"koa haole"** in Hawaii.

People in the West Indies and on the Island of Mauritius in the Indian Ocean also eat the seeds, but we had gotten no reports of ill effects from these places.

At about the same time, ranchers in South Africa and Hawaii noticed that some of their horses were losing tails and manes. Leucaena glauca was implicated as the plant responsible for these results.

Scientists in Hawaii and elsewhere now focused their attention on this plant. It was discovered that rabbits and rats lost fur when fed "koa haole."

Using rats as test animals, a chemical was isolated from the plant and shown to be the causative agent.

Laboratories in Holland, Illinois, Minnesota, and Hawaii worked independently for six years to determine the chemical structure of the compound. It proved to be the same as a compound isolated earlier from **Mimosa pudica** by a Frenchwoman, so it was named mimosine.

TOO EXPENSIVE

The compound was not tested on horses because of the prohibitive expense, nor has any woman volunteered to date to test the hair-removing properties of mimosine. Nevertheless, it was generally agreed that mimosine was the culprit in all the above cases.

If mimosine were responsible, why didn't the Mauritian women lose their hair? The answer lay in the methods used to prepare the beans. In Mauritius the beans were boiled in iron pots.

Mimosine has the property of combining with iron to produce a water-soluble, red-colored material. The Mauritians discarded this colored juice, and thus the mimosine, and recooked the beans until the water was colorless.

In Java the beans were steamed, and therefore very little mimosine was lost.

Thus, the Javanese were getting a toxic dose, while the Mauritians effectively removed the poison by their culinary arts and so kept their hair.

The above examples illustrate the sometimes strange beginnings of biochemical research and also the international nature of science.

Why are 3-nitropropionic acid and mimosine poisonous? Research in progress at the University of Hawaii may answer this question.

The story to date: Ke'eamoku, surnamed the "Yellow Back Crab," was the leader of a group of five Kona men who plotted to make Kamehameha the King of the Island of Hawaii upon the death group were: The Royal Twins, Kameeiagroup were: The Royal Twins, Kameeamoku (the Hero of the Island) and Kamanawa (The Affections), Keawe-a-heulu of K'au and Kekunaupio, a renounced warrior. A battle was contrived in which the heir to the throne was killed and Kamehameha was declared ruler of the Island. The proclamation was premature for Kamehameha had to fight a hit-and-run civil war for nine years against Keawemauhili of Hilo and Keoua-of-the-red-ailament Ka'u.

Hon. Star-Bull.

It became the fashion in Kamehameha's day to induce white men to leave their ships and become servitors of the ruling chiefs. Kamehameha kidnaped John Young, his first haole. Isaac Davis, a Welshman, was kidnaped the next day. 2/22/60

Captain Simon Metcalf was an American trader who bought furs in the Pacific Northwest, wintered in Hawaii, and sold his furs in Canton. He commanded the Eleanore and during a winter's stay in the Northwest built a small schooner which he named "the Fair American."

Metcalf placed his young son Thomas in charge of the Fair American and agreed to meet the vessel off the coast of Hawaii during his next trip to the Islands.

TWO ERRORS

Captain Simon Metcalf made two serious errors in Hawaii. At one time, he allowed the chief "The Hero-of-the-Islands," aboard his vessel. For some trifling offense, Metcalf had the chief strung up and whipped. Kameeiamoku never forgot this indignity.

While trading off the Coast of Maui, Metcalf had a boat stolen and a sailor killed by the Hawaiians. His revenge was terrible.

Metcalf learned that the man who stole the boat came from the village of Olowalu. He sailed the Eleanore around to Olowalu, waited three days for a tabu to be lifted and enticed the Hawaiians to crowd around the Eleanore to trade.

Metcalf then fired into the crowd and killed at least a hundred Hawaiians.

The next day he sailed for Hawaii and allowed his boatswain John Young to go ashore and visit other white seaman serving Kamehameha.

CREW KILLED

During Young's visit, Kamehameha learned that his colleague Kameeiamoku had captured the Fair American and killed its crew of five, including Thomas Metcalf.

Fearing Metcalf would hear of his son's death and

In den frühen Morgenstunden des 18. Oktober wurde mein innigstgeliebter Mann und herzensguter Vater unserer drei kleinen Kinder, mein so sehr geliebter jüngster Sohn, mein lieber Schwiegersohn, unser Bruder und Schwager

OSKAR GRAF VON BOTHMER

nach Vollendung seines 30. Lebensjahres und einem für seine Familie und seine Idee sich aufopferndem arbeitsreichen Leben von seinem langen schweren Leid erlöst.

Elisabeth Gräfin von Bothmer, *geb. Sloman*
und Kinder
Natalie Gräfin von Bothmer, *geb. von Walcke-Schuldt*
Margaretha Sloman, *geb. Krogmann*
Graf und Gräfin Kurt von Bothmer
Ruth Gräfin von Bothmer, *geb. Liebrecht*
Lilly Gräfin von Bothmer, *geb. Harries*
Friedrich-Wilhelm Sloman und Frau, *geb. Eggers*
Jürgen Holle und Frau, *geb. Sloman*

Hamburg 39, Bebelallee 15

Trauerfeier am Dienstag, dem 22. Oktober, 13 Uhr, auf dem Ohlsdorfer Friedhof, Kapelle 4

Beisetzung am Mittwoch, dem 23. Oktober, 13 Uhr, auf dem Rittergut Schwegerhoff bei Schwagstorf, Bez. Osnabrück

followed the coast of Alaska to the north-west Coast of America. Their destination was the place we now call Vancouver Island.

ROUGH TRIP

It was a rough trip. The Hawaiians, who then included Winee, suffered badly crossing the China seas. In March, the ships encountered a storm which swept most of the live cattle into the sea. One ship saved a bull, a cow and heifer. The goats were all killed in one day by a sudden roll of the ship. Of the plants, a lime and an orange tree with six cinnamon were saved.

g the Indians

In some mysterious manner, Captain Meares presumed that Kaiana would be of great help to him in handling the Northwest Coast Indians.

Captain Meares was grieved to find that Kaiana did not speak the language of Comekala, the man from St. George's Sound, and that Kaiana refused to attempt to understand him.

In fact, Kaiana disdained having to do with the Indian who never took a bath and never cleaned his clothing. Kaiana, on the other hand, shaved and bathed with the regularity he had learned on land.

Upon arriving at the Northwest Coast, Kaiana disdained the company of the Indian Chief Maquilla, a man of low stature, who looked ridiculous beside Kaiana.

Kaiana was horrified at the dirty houses in which the Indians lived, their dirty habits and most of all their cannibalistic habits. Because the Indians cut off the heads of their enemies in battle, Kaiana concluded they must be cannibals.

Friendly Cove and Cook's River were the rendezvous of all British fur trading vessels. Kaiana saw about six there the summer of 1788. Most of these ships were mere cockleshells of 50 to 100 tons.

SHIPYARD

The most interesting sight to him was a shipyard in which his British friends were building a new vessel, the North West America.

At first, Kaiana was told he would sail on her to the Hawaiian Islands. Kaiana took a deep interest in the ship and was aboard when the North West America was launched.

The experience so impressed Kaiana, he received a promise from Captain Meares to leave carpenters in the Hawaian Islands to construct a ship there.

Plans were again changed and Kaiana was placed aboard the Iphigenia and given into the care of Captain William Douglas for his return to the Hawaiian Islands.

Captain Meares hated to lose his friend and wrote explicit instructions to Captain Douglas for Kaiana's care.

The Exalted

The story to date: Keawe, the great king of Hawaii Island in the 18th century, shared the throne with his half sister Kalani whom he used for dynastic purposes. She had four husbands and five children before she had a love of her own. This man was Lono-ka-haupu, a prince of Kauai by whom she had a son Keawe-poo-poo. The royal twins were actually the sons of the Maui King Kekaulike, but Keawepoopoo was their legal father. He reared them at Kona, Hawaii.

The royal twins were young men by the year 1776 when we next hear of their exploits.

Keawe, the highest of the ali'i on Hawaii, was dead. He had left several sons to squabble over the throne of the big Island.

By 1776 the throne had descended to a royal prince named Kalaniopuu "The chief who fights like a young cock."

Kalaniopuu had secured his throne by marrying Kalola, the full sister of the Maui King, by whom he had a son and heir Kiwala'o. Because the royal twins were nephews of Kalola, it was their duty to act as courtiers to the young prince.

At the same time, the royal twins were charged with the care of another young prince named Kamehameha who lived at the court of Kalaniopuu.

KING'S SON

Silversword As State Flower

For Mr. Yamato, head of Orchids of Hawaii, to propose that the vanda orchid be Hawaii's official state flower is perhaps logical from Mr. Yamato's standpoint.

For the head of the sugar industry to propose the cane tassel be Hawaii's official state flower would be logical for the cane industry.

For the head of the pineapple industry, the macadamia nut industry, the papaya industry, etc. to propose their particular flowers as official would be logical, certainly from the advertising standpoint of these industries.

To have any one of these flowers proposed as Hawaii's state flower is from scientific and other standpoints entirely illogical. It would be crass commercialism.

We presume Mr. Yamato, an orchid specialist, proposed the vanda as Hawaii's state flower on April Fool's Day as a joke.

We propose that Hawaii's official state flower be our magnificent Silversword.

DRS. OTTO AND ISA DEGENER

EDITOR'S NOTE: The writers are authors of Flora Hawaiiensis. Their letter, too long to be published completely, discusses the introduction of various flowers to the Islands.

Malihini Vandas Go Home

In reference to Reporter Birch Storm's story, "Vanda Orchid Proposed as Official State Flower," I would like to say why it shouldn't be proposed.

When we pick our state flower, should we pick it for its commercial value or should we pick it for what it represents? That is the question.

The vanda has been introduced to the Islands only about 40 years, whereas the hibiscus has been here, perhaps since the days of Kamehameha. Vanda also can be grown elsewhere other than the Islands.

There are more flowers that could be proposed, such as the hinano, the lehua, the mokihana, etc., all original Hawaiian, and representing Hawaii at its best. But since the hibiscus is among the favorites, it has become the unofficial state flower.

Since the article appeared on April Fool Day I thought it was a joke.

I, being a "Keiki O Ka-'Aina" hold great pride in my Hawaii, so put the right flower where it belongs. Hawaiian history and folklore never once mentioned vanda. This proposition for the vanda is just like selecting a malihini for the throne, among the kamaainas.

PETER H. KAUHANE

Dear Sir:

I was interested in an illustrated article in the Advertiser of April 1.

For Mr. Yamato, head of Orchids of Hawaii, Inc., to propose that the vanda orchid be Hawaii's Official State Flower is perhaps logical from Mr. Yamato's standpoint. For the head of the sugar industry to propose the cane tassel be Hawaii's Official State Flower would be logical for the cane industry. For the head of the pineapple industry, the macadamia nut industry, the papaya industry, etc., etc., to propose their particular flowers as official would be logical, certainly from the advertising standpoint for these industries. To have any one of these flowers proposed as Hawaii's State Flower is from scientific and other standpoints entirely illogical. It would be crass commercialism.

The macadamia, named for the Scotchman John Macadem of Victoria, Australia, is native to New South Wales and parts of Queensland. The tree was introduced by R.A. Jordan to Hawaii Nei around 1892. The flower of this <u>malihini</u> plant is certainly not the proper choice to represent our State.

The pineapple, called <u>hala kahiki</u> or "foreign hala," has beautiful purple flowers in a dense red cluster, the immature pineapple. The plant is definitely native to tropical America, though in Hawaii Nei previous to the coming of Capt. Cook. It reached the Islands, perhaps at the same

unconnected with his hazardess trip.

Meyen, a ship's ~~xxx~~ physician, spent some time botanizing in the Islands in 1831. He wrote about his experiences in German, of which the following is a free translation: "As we passed through the streets of Honolulu, we noticed almost everywhere and in the neighborhood of the houses, a large amount of Argemone, which grew like a weed everywhere. In the midst of such plants we saw an Indian woman standing. She touched individual flowers, thus accomplishing something. We approached and saw, to our astonishment, that the woman was thus occupied in artificially transferring the pollen of the flower onto its stigma. In answer to our enquiry why she was doing this, she answered that she thus stimulated the formation of more seed. These//~~s~~ in the Islands, as with us (in Germany), are eaten.

Meyen, who over a hundred years ago thought the Hawaiians were Indians, gives us a clue of the high state of early Hawaiian agriculture. How fascinating it would be if the older Hawaiians living among us today would record what they remember about their ancestors' culture. Why must we so often depend on such knowledge on the writings of a casual malihini?

Burge, who arrived yesterday.

Hon. Star-Bull. 6/2/61

Botanical Notes

Because I wrote a few paragraphs on where the "i" should be in plumeria, Dr. Otto Degener, eminent botanist, sent me three scientific books on the flora of the Islands. (He also sent me his book on his expedition to Fiji. It has a delectable chapter on cannibalism.)

Webster's dictionary favors the spelling "plumiera."

But George A. Milne of Halekauwila notes that Liberty Hyde Bailey, author of the Standard Cyclopedia of Horticulture, prefers plumeria and Degener's books also favor it.

Degener and Milne note that its proper vernacular name is frangipani.

But who wants to sponsor a Frangipani Ball, Milne asks.

Degener and his wife are still working on their definitive study of the flora of the Islands, with the help of grants from the National Science Foundation. They use some of the facilities of the Bishop Museum, although they are not officially connected with it.

"They don't throw out botanists," Degener said with an appreciative tone.

Hon. Star-Bull. 5/3/61

A potted specimen of the unusual, unscented orchid ginger (Hedychium Longicornutum) from Singapore now in bloom at the Wahiawa Botanical Garden is displayed by Thomas Miyashiro.

gods.

After completion of the many calabashes both large and small according to size of tree, a religious ceremony was undertaken in which Lakeikawai was made the happy recipient of the first calabashes ever made from the Milo.

Times have changed and other races have taken the place of those early peoples yet the Milo still retains its charm today among the Hawaiians. The good luck prayed for by their sires still follow the Milo calabash. Lucky and fortunate indeed is he or the home in which the Milo calabash of the Hawaiians is found.

- The End-

Plumeria (Continued)

Editor the Star-Bulletin: In spite of Chuck Frankel and William Drury, the name "Plumeria," pronounced Plume-area, will probably endure not only in Hawaii but throughout the world. 6/9/61

Quoting from our book, "Tropical Blossoms of the Caribbean" (available at Honolulu Book Shops here in Hawaii), "Plumeria was named after Charles Plumier, a French botanist who made voyages to the Caribbean in the 17th century. The flower was originally spelled Plumieria by a man named Tournefort, but through common usage it is now widely called Plumeria." This spelling is botanically accepted.

If Chuck Frankel really wants to confuse the issue, he could mention that Frangipani came from the French "frangipanier" (still so called in French Guiana and Haiti) which means coagulated milk and by association was eventually used to refer to the tree.

Our book "Hawaii Blossoms" as well as "Flowers of the World," "Plants From Cuban Gardens" and many other flower books throughout the world call it Plumeria.

Perhaps when checking up on botanical names it might be best to consult "A Concise Dictionary of Gardening" by Macself, or something authoritative in the botanical field instead of Webster.

Mr. Drury refers to Dr. Degener as a "somebody told me" writer, but it seems Drury and Frankel are doing the same thing. It is evident that they have not researched their information.

DOROTHY HARGREAVES
Kailua, Oahu

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"They don't throw out botanists," Degener said with an appreciative tone.

★ ★ ★ ★

Ted Corbaley of Hawaii Loa Street takes Webster's Universal dictionary to task when it places a three-mast limit in its definition of barkentine. He says a barkentine (or barquentine) can have more than three masts. "Five masted barkentines were quite common 40 years ago," he said, adding that he has photographs he took of one in 1921.

DOWN TO CASES

Howard D. Case

GOURMET NOTE

Apparently none of the legislators is on a diet because H.L. notes that when they sat down to the budget table they ordered some mighty big cuts and chops.

* * * *

Worst Pun of the Week: With an argument going on concerning its correct spelling, G.B.J. says the plumeria has apparently leaped from the frangipani into the fire.

Editor the Star-Bulletin: May an old-timer, in a spirit of constructive criticism, call attention to a few errors in the Women's Section of your Sunday Star-Bulletin of June 11? This refers to the page upon which pictures of Hanaikamalama appear. 6/14/61

The Duke of Edinburgh made only one visit to the Islands. He was the second son of Queen Victoria. Had he been the first he would have succeeded her to the throne.

The little son of Kamehameha IV and Queen Emma was never known as "Prince David." He was christened Albert Edward Kauikeaouli Leiopapa a Kamehameha, and throughout the Islands was spoken of as "the Prince of Hawaii" ("Ka Haku o Hawaii").

Queen Emma did not build Hanaikamalama. She inherited it from her uncle, John Young II, who gave it its name. Queen Emma never lived at Washington Place. Washington Place was the home of the senior Mrs. Dominis, whose son, John O. Dominis Jr., was the husband of Liliuokalani, afterwards our Queen. The couple lived with the old lady, and later, as a widow, Liliuokalani lived there.

Queen Victoria's consent to be the Prince's godmother by proxy was in response to a request written by his father, Kamehameha IV. The widowed queens met when Emma visited England, and it was then that the warm friendship began.

This is written merely to keep the record straight. The writer realizes that the article mentioned was prepared with the sincere desire to be accurate. However, every historical column that is published is clipped for many a scrap book.

Accept thanks for this opportunity from A KAMAAINA.

COLLEGIATE ALUMNI ASSOCIATION
CLASS NOTES

This year, CLASS NOTES will appear three times. There will be a special Alumni issue of the JOURNAL in February, and there will be supplements in the bi-yearly BULLETIN, of which this is the first. We hope thus to catch up with the news we have garnered from the questionnaires and from our other more elusive sources.

1918

Class Secretary: Kenneth Drummond, 905 Security Building, St. Louis 2, Missouri

Otto DEGENER is probably the only Alumnus with the distinction of having a plant family named in his honor — the Fijian plant family *Degeneriaciae*. He has represented the New York Botonical Garden in Hawaii since 1935 and alone, and with his wife, has published many scientific papers as well as the book *Flora Hawaiiensis* or New Illustrated Flora of the Hawaiian Islands.

Salvador ROS, a partner in Jewett, Newman & Company, is also on the Board of Managers of Greenwich House.

Natural coloring from Hawaii's familiar backyard plant — the lipstick pod — may eventually replace certain cancer-producing red and yellow dyes outlawed by Congress.

University of Hawaii scientists experimenting with the plant say it has vast potential for profitable export, although they're not ready to recommend wide-scale commercial production.

The Big Island, especially, would be economically bolstered by such a development since the plant flourishes in heavy rainfall and rocky soil.

It is already being grown in Puna for ornamental floral decorations.

BEGAN IN 1958

Dr. James C. Moomaw, agronomist at the Hawaii Agricultural Experiment Station, and Dr. Hiromu Matsumoto, biochemist, began investigating the lipstick pod in 1958, anticipating the "Delaney" amendment of the last Congress.

The amendment to the Food and Drug Act prohibits the use of coloring or any material which has been shown to produce cancer in animals or man "no matter how small the amount," Moomaw explained.

He said this action will notably affect coal-tar dyes used substantially as red and yellow coloring agents in some food products and cosmetics.

WIDER MARKET

It also will stimulate the search and widen the market for new sources of dyes, he added, particularly with some South American sources cut off.

Experiments at the University's Waimanalo farm show that easily 500 pounds of dye per acre can be produced here, "which is pretty high," Moomaw commented.

The Central and South America native plant, scientifically tabbed Bixa orellana, was first exploited by the Indians for war paint.

Dye stuff from the small red seeds of the pod subsequently was utilized for numerous Spanish foods and, in Hawaii, is now valued for coloring pork.

Its greatest single use at present, when diluted, is to color butter, cheese and margarine, Moomaw said.

The coloring material of the seeds is not too successful for fabric dyes, he added, because it fades badly in light.

The lipstick pod

But it is widely used for lipsticks, oils, soap, woodstains and, in the Philippines, for a brown shoe polish.

Offshoot developments include the dye's use in making a floor wax, for printing purposes and as a medicinal herb reportedly effective for fevers and colds.

"And the red resinous substance is considered a remedy in some places for certain skin diseases," the University scientists said.

Some small Island producers are already selling the seeds commercially, Moomaw noted:

"They bring fabulous prices for dye."

He feels the potential for increased production and export is great "because it is a low volume, high value product."

The plants also appear free of serious pests and diseases, he added.

However, he said there may be some harvesting problems since the plant is a shrub like coffee, and demands high labor resources for picking.

By HELEN ALTONN

Pearl Harbor's West Loch is "virtually a solid oyster bed," says a visiting Mainland fisheries authority. He's enthusiastic about the possibilities of developing an oyster industry here.

"I've worked on oysters for years . . . but these are the densest natural beds I've ever seen," Dr. Albert J. Sparks said yesterday.

"I'm intrigued because it's something just about unique — a virgin oyster field."

The University of Washington College of Fisheries professor and consultant leaves tonight after completing a three-week survey of oysters in Isle waters.

HERE ON CONTRACT

He was brought here under contract by the State Division of Fish and Game to investigate the beds under a $2,000 appropriation from the 1961 Legislature.

Dr. Sparks expressed enthusiasm over the possibilities of an industry, particularly for fresh market trade.

Islanders are already keen on raw sea foods, he noted, and the American eastern oyster growing in Pearl Harbor is a premium variety.

But he said before advocating large investments in an industry, he is recommending that the State conduct further, intensive studies on oyster growing.

POLLUTION PROBLEM

One of the major problems to be overcome is the pollution in Pearl Harbor waters, which prohibits the oysters from going straight to the table.

They are safe to eat, however, if they are removed from the pollution area into clean water for a sufficient period to cleanse them, Dr. Sparks said.

He toured the Neighbor Islands looking for possible sites to transfer the oysters for cleansing and said he found areas on each Island which appear suitable.

Molokai has outstanding oyster-growing sites, he said.

He mentioned Kaneohe Bay, which has smaller supplies of the Japanese oyster, as another potential site.

Michio Takata, Fish and Game Division chief, points out that since the beds in Pearl Harbor are under naval jurisdiction, an agreement would be necessary with the Navy to tap the resources.

Meanwhile, he said, he will seek funds from the Department of Agriculture commissioners to carry on a research program.

"The amount of money we might spend on studies in relation to benefits the State would derive from an industry would be small," he said.

Although Island oyster beds are heavily poached, there has never been an open season on oysters.

And the beds in Pearl

VALUABLE NEW forms of Carissa, a plant many Island gardeners consider indispensable as a thorny hedge, have recently been introduced by California nurseries.

The common Carissa, or Natal Plum, is actually a small tree, dark foliaged with attractive white flowers, edible red plum-like fruit and magnificent thorns.

Equally at home at the beach or in the mountains, it has been well-utilized

This is the ninth in a series of articles on plant material useful in Hawaii, with authoritative information furnished through the courtesy of Paul Weissich, director of Foster Garden. Persons seeking to purchase plants mentioned are asked to call their local nurseryman, not Foster Garden.

in Hawaii in a variety of imaginative ways—an espalier, bonsai, clipped tubbed specimen, pruned-up small tree and as handsome cut material for house decoration.

New varieties include a prostrate form and a low, compact, bushy type.

The prostrate form, appropriately named Carissa grandiflora variety horizontalis has been used in warm mainland areas as a shrubby ground cover, since it grows to only about 2 feet in height. It retains all the attractiveness of the common Carissa, but grows out instead of up.

Ideal as a barrier-type ground cover, the prostrate Carissa will inhibit dogs, cats and barefoot boys. It would also be perfect planted as a low bank cover in full sun. It would be a handsome addition to a large rock garden or could be used as a horizontal accent to a poolside planting.

Plants of this variety brought in to Foster Garden from California have proved quite satisfactory. Carissa, once established, does not require rich soil nor heavy watering.

The other new Carissa is a dwarfed type called "Boxwood Beauty." As the name implies, it is small-leaved and clips to a compact mass. Foster Garden's plants are not large but already present a pleasing, tight surface.

As with other Carissas, the Boxwood Beauty variety should be planted in full sun. Use it as a low (12 inch) hedge or border, or use it as a ground cover with specimens of larger, dark green shrubs.

This compact variety is also well-adapted to pot culture and would look well in an oversize tray garden, with lava stone or coral stone, or over a ground cover of water-smoothed pebbles.

If Hawaii nurserymen do not have the Boxwood Beauty variety, they can easily import it from southern California.

Several other attractive, tough Carissa varieties at Foster Garden will be discussed in a later article.

Carissa grandiflora, variety Boxwood Beauty, photographed at Foster Garden.—Star-Bulletin Photos.

Carissa grandiflora, variety horizontalis, photographed with its container turned on its side, to better show pattern of growth.

Tahiti-Chile Raft Sinks; All 5 Saved in Storm

SANTIAGO, Chile, May 2 (AP)—The bamboo raft Tahiti Nui, carrying a crew of five from Tahiti to Chile, sank in a storm today, the Chilean Navy announced.

The crew was rescued by the Chilean Navy frigate Baquedano, which had the raft in tow. The raft had been badly damaged in a storm last week.

A heavy sea broke the tow cable and the raft began to sink. All th ecrew and part of their equipment were taken aboard the frigate, which is heading toward the Chilean port of Valparaiso. The raft sank near the Juan Fernandez Islands, 400 miles off the Chilean coast.

The 14-by-40-foot raft left Tahiti Nov. 6, 1956, on a trip to Chile, hoping to prove that Polynesians could have reached South America in pre-Christian eras.

Brigham Finagles Possession of Pease Library

Story to date: William Harper Pease, a noted shell collector who lived and worked 21 years in Hawaii, died in 1871 leaving a "fine" library which the government bought for $1,400. The library became the possession of the Government Museum and was housed in Aliiolani Hale (Judiciary building) under the care of Emma Metcalf Nakuina.

Hon Star-Bull, 5/14/61

We can thank W. H. Brigham and his grasping ways for the salvation of the scientific books in the William Harper Pease library.

When Charles R. Bishop planned the Bishop Museum as a memorial to his wife, he had no idea of making it the big institution it is today. He planned the main entrance, the upstairs hallway and exhibit room, the present Hawaiian room and a network of offices and workrooms which are the present basement.

Brigham had big ideas and he badgered Mr. Bishop into accepting them. He wanted to cover the entire Pacific and he wanted to save every Hawaiian artifact which came into his possession.

He made it his business to become friends with Mrs. Emma Nakuina and to learn everything she had in the Government Museum. Brigham thought the entire government collection should belong to the Bishop Museum.

One day in 1891 when Brigham was loitering about the Government Museum, he overheard the attorney general complaining of how he needed space and of how visitors to the museum disturbed his work.

Brigham took the cue. He persuaded the attorney general to use his powers to send the government collection to the new Bishop Museum.

Upon the attorney general's sayso, Mr. Brigham began placing the government artifacts. While he was engaged in the work, news was received of the death of King Kalakaua in San Francisco and the arrival of a ship with the King's remains.

Afraid that Liliuokalani might stop his transfer, Brigham called in all the help he could get. He engaged all available express carts—dumped the government artifacts into the carts and transferred them to the Bishop Museum.

The Pease library may not have been included in this hurried move, so we hear about the books at a later time.

sonnel.

CLASS OF 1922

Paradise of the Pacific, Ltd., is printing in book form a narrative of **Otto Degener's** exploration in the Fiji Islands. The book is called an "admirable combination of a South Seas travelogue and a scientific treatise." The book has a strong historical flavor in addition to its value for scientific description. Degener who has been collaborator in Hawaiian botany for the New York Botanical Garden is the only living man with a plant family named in his honor.

Death of Kaiana's Brot

The story-in date: Kamehameha lost an estimated army of about 3,000 men on the day of the invasion of Oahu. They were the men who followed Kaiana and his brother Nahiolea in deserting Kamehameha for Kalaniopuu. Their men played an important part in defending Nuuanu and the Pali during the battle for the Pass. Kaiana was an illustrious chief who had gained great prestige as the first traveled chief in modern history.

"Nahiolea, Nahiolea," a sweet voice called.

"Come out and have some food and drink."

Nahiolea recognized the voices of his former Hawaii Island friends — the men whom he had deserted the night he followed his brother Kaiana.

Nahiolea had stood beside Kaiana when John Young's cannonade had hit them during the battle of Nuuanu. Kaiana had been killed and Nahiolea had limped away wounded. Nahiolea found a clump of hau bushes and hid in them.

The stream of blood from his wound had provided a trail to his hideout.

POISONED CUP

Nahiolea knew that death was his portion and he was relieved to know that he should die like an ali'i not like a commoner.

Nahiolea came out of his hiding, ate some of the offered food and drank the bitter poisoned cup without flinching.

Proper etiquette was observed by the Hawaii man in dealing with this chief, the grandson of their big chiefess Kaupekamoku and the cousin of Maui's Kekaulike through his father Kuimiheua.

Nahiolea was dead but he had a one-year-old son in Hilo, by his wife Inaina named Kekuanaoa. Inaina belonged to a family of Kamehameha's kahu (caretakers).

This boy was to grow tall and handsome and was to become father of Kamehameha IV and V, the last of the Kamehameha dynasty. The name Kekuanaoa means the "chief who stands with erectitude, like the bristle on the sea urchin."

Leave It to Cook

Story to date: Astronomers of world renown had predicted the transit of Venus in the year 1769 across the Island known as Otahitie in the South Pacific. England's Royal Society was stirred to action by Isaac Newton and requested King George III to send an expedition to measure the transit. Hope was felt that the transit would help settle the problem of longitude. The King agreed. James Cook of the Royal Navy was given the project and was commissioned a lieutenant in the Royal Navy.

Leave it to Cook! was the cry among the gentlemen of the Royal Society as soon as they learned in 1768 that James Cook of the Royal Navy had been selected to command their exploring ship into the Pacific.

That is how it happened that an ugly flat collier had been selected from Whitby Yards to carry the expedition to Otahitie (now Tahiti.) She was renamed the Endeavour.

An uglier vessel never existed. That didn't matter. Cook knew exactly how she had been built and he knew she would snuggle up close to a coastline. She was built to carry 368 tons. Scores of faster sailing ships were moored in British harbors, but Cook would not even look at them.

The Endeavour cost 2,840 pounds and her refitting was to cost another 2,294 pounds. The Royal Society made no objections because the King's purse was open. Since this was to be Britain's first purely scientific expedition, the Royal Society decided to leave all the details to Cook and to concentrate on deciding whom to send and what they should do.

The King, the Royal Society and the Admiralty decided to keep their sticky fingers out. Even the Earl of Sandwich had nothing to do with the supplies. Cook was allowed to buy what he wanted even though Cook had already acquired the reputation of being "queer" about food.

"Leave it to Cook" became their byword. They had appointed Cook the official astronomer and Cook had accepted a honorarium of 100 pounds for that task. The determination of longitude they also left to Cook. But, to help him the Royal Society had ordered made a fine clock which they placed in his hands and said must remain on his desk.

Thus Cook had the benefit of two new marine instruments: the sextant and the chronometer. Neither was like the sextant or the chronometer of today, but they were the beginnings. At the Bishop Museum may be seen these wonderful charts which Cook made of these Islands with the help of those crude instruments.

AFOOT AND AFIELD IN HAWAII

The Fairest Flower In All Hawaii

By HELEN SHIRAS BALDWIN

While on our botanizing trip about this island we collected other things as well as plants—things which need no be pressed flat and brown and dry for mounting on paper, nor have to be treated with insecticides and fungicides.

These other treasures will stay forever fresh and beautiful in our memories. In fact they may lose some of their original imperfections as time goes by.

One of these treasures was the vision of loveliness which a rare cock pheasant gave us from his perch by the roadside near Kulani Prison Camp.

He was no ordinary pheasant but a resplendent yellow, russet, brown and black one with white markings on his head. His dull colored mate crouched near by.

★ ★ ★

SINCE HUNTING is not permitted in this area, the pheasants showed little fear. They scuttled away through the grass and brush and did not fly, though one member of our party tried to flush them into the view of his purring movie camera.

What kind of pheasant was he? We still do not know, though in habits and coloring he resembled both the Golden Pheasant and Reeves Pheasant, according to William Beebe's "Pheasants, Their Lives and Homes."

★ ★ ★

WE OBTAINED another unforgettable picture, too, when a wild sow with half grown young fled from us across a woodland clearing.

But curiosity conquered fear for a few moments in one piglet while he stood on an upturned tree root, boldly silhouetted in black against the white mist, then leaped away to join the rest of his family.

There was the delicate elusive fragrance wafted to us in some well wooded kipukas along the Saddle Road; yet we could find no flower which produced it. The source is still a mystery.

And there was the pungent goat-like or pig-like odor we noticed in upland Kohala forest areas; but this we traced to some of the choice Lobelias we gathered.

★ ★ ★

OUR GENIAL HOST from the Kohala Sugar Co. who took us into this country, part of which belongs to that company, proved a master of understatement:

"You'll never make it in your car. I'll take you in the jeep. It's a bit rough." (We bounced about in that jeep like novices learning to ride trotting horses. We felt sorry for the jeep; but it joggled up and back without complaint.)

"You get a nice view here." (It was magnificent—a wide sweep of sugar cane fields threaded with dark forested watercourses and dotted with neat villages, each with a church steeple, while beyond spread the wide blue ocean and the dark blue shadow of Haleakala.

★ ★ ★

AT THE OTHER end of the island, in Hawaii National Park, we found a wilder but equally magnificent view from Hilina Pali at sunset when sky, sea and pali slopes were flushed with rose and gold.

We watched the purple shadows change to gray and the bright clouds to moth-wing hues before we drove away.

But the finest "specimens" we gathered were quite different.

They were good fellowship among congenial people; the blossoming of friendships already made and the finding of newly sprouted ones.

In short, we found the fairest flower that grows in Hawaii —the Spirit of Aloha.

FIELD TRIP

Drs. Isa and Otto Degener of Honolulu spent the past week on the Big Island gathering plants which are sent all over the world. They are field botanists and authors of several books . . . running to six volumnes . . . The New Flora Hawaiiansis.

Dr. Otto Degener is a former ranger-naturalist with the Hawaii National Park . . . stationed here before the Second World War. Mr. and Mrs.

Robert Baldwin of Hilo . . . recognized authorities on Big Island flora . . . accompanied the visitors on their excursions.

Also in the party . . . William Cadenhead of Honolulu . . . with the U. S. Air Force. The trio left Tuesday.

Otto Degener's Narrative Is Being Published

Paradise of the Pacific, Ltd., is now printing in book form a narrative by Otto Degener's explorations in the Fiji islands as guest-botanist of Mrs. Anne Archbold on her Chinese junk-yacht, Cheng Ho.

Mr. Degener, botanist at the University of Hawaii in 1925-27 and since 1935 staff member of the New York Botanical Garden stationed in Honolulu, spent eight months among the Fijians, living in their grass houses.

Adopted as "white father" by the son of a petty chief, he gained the aloha of the natives, and recorded their most intimate lore.

One of the relatives of his "Fiji [illegible]" had partaken of cannibal [illegible]sts in his youth. Listening to [illegible] tales, Degener became some[illegible]ng of an expert on mbokolo or [illegible]g pig," and devotes an entire [illegible]pter to the fine points of such [illegible]sts.

[illegible]r the information of nervous [illegible]e readers, he relates that the [illegible]ans seldom ate white meat as [illegible]ad too often the disagreeable [illegible]or of tobacco and alcohol. The [illegible] referred cut for a feast was the [illegible]pper arm of a melanesian belle. "Naturalist's South Pacific Ex[illegible]edition" is a readable, non-tech[illegible]ical book well illustrated with [illegible]notographs.

Besides cannibalism, it deals with blackbirding, missionary successes and foibles of the past in Hawaii and elsewhere, and the present customs of the Fijians which are much like those of the Hawaiians in Kamehameha's time.

Mr. Degener, the author of "Plants of Hawaii National Park" and the monumental "New Illustrated Flora of the Hawaiian Islands," has been signally honored for his long years of research in the Pacific. He is the only man alive with a plant family named in his honor.

Saving Hawaii's Flora

Editor the Star-Bulletin: A resident of Hawaii Nei since 1922 and professionally interested in the native plants and animals, I was pleased to read your coverage of the Pacific Science Congress in the Sunday edition.

Regarding "Biological Sciences" and "Conservation" you mention resolutions regarding a tropical botanic garden, rat control, marine turtles, sanctuaries for rare animals and the nene. Please let me remind my fellow-readers that other resolutions were passed as well, some of a more fundamental nature. Two of these, in part, read:

6—Whereas in insular habitats many organisms . . . have evolved only in their present habitats and are found only in extremely restricted areas . . . and whereas present development and engineering activities are rapidly destroying these locally developed organisms and situations, it is resolved that government agencies and private development agencies should provide funds for an accelerated program of study of such situations as are in the immediate path of such engineering and development activities. . . .

12—"In view of the continuous and increasingly rapid extermination of the native Hawaiian flora, by commerce and the introduction of competing animals and plants by accident and design and the inability of man effectively to retard the resulting biological holocaust, therefore be it resolved that any institution with herbarium facilities alone or in co-operation with Hawaiian institutions, actively collect the Hawaiian flora and preserve the resulting specimens in their herbaria to enable future generations to study this unique flora."

Our once typically Hawaiian Islands with koa, ohia and treefern forests and native nectar-feeding song birds are becoming increasingly more like fair imitations of Australia with introduced ironwoods and eucalyptus, like Wyoming and India with antelope and deer and like California with pines.

Our tourists who leave Australia, Wyoming and California should be able to see our Hawaiian plants and animals at least preserved in our Bishop Museum when they no longer exist alive in the open.

Lacking such examples, why bother to visit Hawaii Nei unless they wish to acquire an unsurpassed tan by living along our beaches in one of our magnificent cliff dwellings which concentrate the sweltering tropic sunshine within their concrete walls and serve as efficient windbreaks to guard them from our cooling trades?

DR. OTTO DEGENER, Naturalist
Hawaii National Park, 1939

NEW BOOKS IN HAWAII

Flora Of Hawaii

FLORA HAWAIIENSIS, BOOK 6; by Doctors Otto and Isa Degener. Published by the authors, Mokuleia Beach, Waialua, Oahu, Hawaii, at $10.

Reviewed by L. W. Bryan, former Deputy State Forester

This is the sixth book of this valuable flora which includes not only native but introduced plants found in Hawaii. Doctor Otto Degener began his botanical work in Hawaii in 1922 and has spent the past 42 years in botanizing here in Hawaii and other parts of the tropical world.

He has authored a number of books included among which are; "Ferns and Flowering Plants of the Hawaii National Park (where he was park naturalist in 1929), published in 1930; Last Cruise of the Cheng-Ho, 1943; Naturalist's South Pacific Expedition, 1945, etc.

During 1925-27 he was botanist at the University of Hawaii.

He was joined in this improtant work by his wife, Dr. Isa Degener, after their marriage some few years ago. Doctor Isa Degener is a botanist in her own right and this wife-huband combination makes an excellent team.

Book 6 contains more than 200 pages and accurately describes more than 170 different plants representing 79 different families. Like former volumes this one is printed on heavy, glossy, durable paper which will last a long time. Each plant is well illustrated on one side of the sheet and the description is shown on the other. It is in loose leaf form so that additions may be made to each familiy as new sheets are published.

Of interest and indicating a significant honor is a reproduction on the Front Piece of the LINNE MEDAL awarded to Doctor Otto Degener by the Swedish Academy of Science in 1962 for his outstanding contributions in the field of botany.

By CARL ZIMMERMAN

MANILA, March 29 (AP) —A mysterious killer is destroying the Philippines' coconut industry, long a prime source of the world's copra.

If not checked, it could spread to other countries.

The killer's only name is "cadang-cadang," which affords no hint as to its nature. The term means simply "dying dying" in one of the Filipino languages.

Its effects, however, are clear. More than eight million coconut trees are dead or worthless, and the disease is spreading quickly.

Scientists have carefully studied the progress of cadang-cadang. The first sign is the appearance of small yellow spots on the palm fronds.

Then the root system breaks down, fruits become fewer and smaller.

About four years after the disease is first noticed the tree stops bearing fruit and slowly dies.

SLOW SPREAD

The spread of cadang-cadang was slow at first. It was identified on a small island off the main Philippine island of Luzon in 1926.

Eventually it killed 97 per cent of the coconut trees on the island.

The first positive sighting on Luzon, the country's main coconut region, came in 1937.

Since then cadang-cadang has invaded half of Luzon's coconut areas.

There are several theories on the nature of cadang-cadang, but the one that has received the most support says it is a virus transmitted by insects.

The job is to learn which virus, spread by which insects.

Some, however, hold that nutritional deficiencies or other soil factors may be responsible.

One recent hypothesis points to the presence of aluminum in the soil as the villain.

It has even been suggested that the typhoons which sweep across the coconut regions every year may have something to do with cadang-cadang.

A virologist with the United Nations' Food and Agriculture Organization has asserted:

"Had the infectious nature of the disease pointed out in 1937 been duly acknowledged, its progress could have been arrested by destroying every tree, both diseased and apparently healthy, in the relatively small area concerned. That was not done.

"The present current volume of the disease makes control by eradication impractical or even impossible"

---

might have had misgivings if he had awaked in the night, as young William DeWitt Alexander did, at being nipped on the toe by a rat which had been lurking in the thatch, and which, of course could not be dislodged once he had taken refuge there!

However, the building of the mission house, which still stands, provided a comfortable home at last.

Judge Dickey's Paper

In a paper "Hanalei Place Names," Judge Lyle A. Dickey of Lihue brought to light some hitherto unrecorded interpretations of the names of several score of hills, valleys, rocks, gulches, points, and other spots that had individual names.

Judge Dickey pointed out that names were given to places in memory of some place from which settlers had come, which fact accounts for the frequent occurrence of the same names on various islands; or places were given names descriptive of configuration, vegetation, or of occurrences; or they were named sometimes in honor of individuals.

An example of a descriptive name is "Hihimanu," the large hill between Waioli and Hanalei valleys, named from its resemblance to the hihimanu, or giant ray fish. The mountain back of Waioli, with the high waterfalls, is "Namolokama," or "long rock clefts," while the mountain between Waioli and Waipa valleys is "Mamalahoa," probably named to commemorate Kamehameha's mamalahoa proclamation. The name "Waioli" or "singing water" is descriptive, as on quiet nights the songs of the waterfalls can be heard plainly in the valley.

Plans were made for a trip to be made by members of the Kauai Historical society and their friends to Kohhale heiau on November 17.

Eric A. Knudsen is president of the society; Judge Lyle A. Dickey vice president and Senator Elmer F. Cox secretary.

Paki Becomes a Hulumanu

The story is later. The High Chief Paki, a grandson of the Maui King Kamehamehanui, was born too late to enjoy the privileges of the god-like Maui Kings. His family had been defeated by Kamehameha of Hawaii. Those who pledged allegiance to Kamehameha had been allowed to survive. Kalanihelemailiuma, father of Paki, had made peace with Kamehameha and had married Kawao, a woman of the Hawaii Royal line by whom he had Paki. As a youth, Paki became a favorite in the household of the young Prince Kauikeaouli, youngest son in Kamehameha's royal family.

Star-Bull, 2/15/61

The missionaries had never been able to convert Liholiho, the elder son of Kamehameha. He ruled as Kamehameha II until his death in 1824. Kauikeaouli was still a boy, when he succeeded Liholiho so Kaahumanu succeeded Liholiho as queen regent.

Kaahumanu became a Christian and aroused much resentment among her people as the tool of the missionary Hiram Bingham. Those who resented Kaahumanu's christianity rallied about Boki, governor of Oahu and his wife Liliha. Both were offshoots of the Maui and Hawaii royal families.

Kaahumanu did not dare touch the popular Boki. He kept a hotel, sold rum and drank a great deal of his own merchandise. Boki left much of the administration of affairs to his wife Liliha. Boki dreamed of setting Kahumanu aside and ruling Oahu as he saw fit.

GAINED INFLUENCE

It was about this time Boki gained a great influence over the young King Kauikeaouli and encouraged the Hulumanu, the favorites of Kauikeaouli, to revolt.

Paki was among the Hulumanu and a leader in drinking rum, rioting, playing billiards and dancing.

Boki left Hawaii to go on a sandalwood expedition and never returned. Liliha became the governess of Oahu and lived in the Fort. The tension between Liliha and Kaahumanu increased to such an extent Liliha brought her own men from Waianae into the Fort and placed Paki over them as Captain.

Liliha's father was Hoapili, an old friend of Kamehameha. To extricate herself from a civil war, Kaahumanu sent to Maui and asked Hoapili to reason with his daughter Liliha. Hoapili did and he took Liliha and Paki with him when he re-

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...moved to Lahaina, his residence.

The influence of the Hulumanu declined, missionary influence increased and we hear no more of Paki's revolt.

The first authentic date we have of Paki's youth is given in an obituary published in Kuokoa on the death of his son by a Kohala, Hawaii woman, Kaiwi. The son, David Manuia, was born in 1810 at Puakawau, North Kohala, the obituary says.

If 1810 is correct, Paki could not have been born about 1808 the date given by the David Manuia family daughters of Bernice Pauahi Bishop, reprinted in 1958 by Tr-

Kamehameha Schools Press.

We will tell more about Mary K. Kront in The Member in this story.

Next: Kanaholo Kouia.

F R A N Z E L F R I E D W I M M E R , 1881 - 1961[1]

Otto & Isa Degener[2]

With the Hawaiian lobelia specialist Dr. J. F. Rock residing in the Orient, our Lobeliaceae were consistently mailed to Dr. F. E. Wimmer, monographer of the Family for "Das Pflanzenreich." This involved lively correspondence for over a quarter of a Century and a visit of the kane writer to the Naturhistorischen Museum in Vienna to meet Wimmer there among his specimens.

Franz E. Wimmer, son of a Wiadviertel farmer, was born November 30, 1881, in Niederschrems, Austria. He early showed interest in insects and particularly plants. After studying in Vienna and Graz, he began his teaching career at St. Georgs-Kolleg, in the then city of Constantinople, during his spare time enriching his biological collections with trips in Asia Minor. Ordained to the priesthood July 21, 1907, he first was Chaplain in Vienna, later Priest in Wampersdorf, and for many years thereafter religious Rector in the "Elisabeth-Spital der Barmherzigen Schwestern" in Vienna. He retired in 1958.

In spite of religious duties, Dr. Wimmer accomplished a monumental work in Botany, helping with the writing of a "Flora of Peru," "Flora de Madagascar," and a Flora of West Africa and of South America. In 1960 he was writing a book about the Cyphiaceae. In 1944 he was elected Correspondent of the Natural History Museum of Vienna, which institution had stimulated him to produce his magnus opus, the "Campanulaceae-Lobelioideae" of the World. In the bombing of the botanical museum by our fliers during World War II, the magnificant collection of Phanerogams was largely destroyed. The Lobeliaceae, on loan to Wimmer, escaped the holocast.

Wimmer himself drew many of the Hawaiian Lobeliaceae for this Flora in pencil; due to the infirmities of age, employing his nephew Helmut Schmidt to ink them in for the Honolulu printer. In his letter of December 1960 to us, in which he acquainted us of his second and unsuccessful operation for a malignancy, he quoted the dialect poet Stelzhammer:

"Freud und Leid hat alls sein' Zeit,
Wie 's kommt, so geht 's und kein 's versteht 's.
Aufs Hirn kannst hammern,
Ans Herz kannst schlagen;
Das Gscheidest ist: Gehuldig tragen."

It was Dr. Wimmer's aim to settle his affairs and to finish the Supplement of his great work. The manuscript was completed by March 1961, and in the hands of the printer the following month.

He signed his letters F. or F. E. Wimmer or Wimer, the horizontal line over the m denoting its duplication.

He somewhat agreed with the writers' suspicion that the species of Lobelia s.l., of Hawaii, originating in the Archipelago from probably a single introduction, deserve segregation in a distinct, endemic genus, even suggesting the man for whom the latter should be named. Because of Dr. Wimmer's unexcelled knowledge of the Lobeliaceae, we take the liberty of establishing the genus Neowimmeria for our endemic Lobelia relatives, a name we had suggested to him as more eminently appropriate in our correspondence of October 27, 1960. This modification of Dr. Wimmer's name is necessary because the genus Wimmeria (Celastraceae) had been published over a hundred years ago.

April 10 Dr. Rock wrote Dr. Wimmer that he had named a new Trematolobelia in his honor. We hope our gentle friend learned of this discovery before his death May 2, 1961, in the same hospital in which he had been active for so many years. He was laid to rest eight days later in Jedlesee Cemetery.

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[1] Reprinted from Flora Hawaiiensis (Vol. 6), Nov. 15, 1962.

[2] Collaborator in Hawaiian Botany, New York Botanical Gardens. Mailing address: Mokuleia Beach, Waialua, Oahu, Hawaii.

Dogs, Pro and Con

Editor, the Star-Bulletin: "That dog owners should be required to keep their pets on leashes when not confined to house or yard" is suggested by Mrs. James Clinton, according to newspaper accounts. This suggestion, if followed, has advantages as well as disadvantages. Points in favor are:

1—Reduced damage to lawn and flowers, as well stated by Mrs. Clinton.

2—No need for exposing the owner to an annual dog license fee so long as the dog is strictly confined by chain or kennel, or is under control of the owner or his representative by means of a suitable leash.

3—No need for the owner of a dog returning from abroad to keep his pet in quarantine for four months at a fee that is almost prohibitive. So long as dogs are confined or under control, the danger of a rabies outbreak is nil.

Points not in favor of confining dogs, in my opinion, are:

1—Condemning many thousands of dogs in the State of Hawaii to cruel treatment because of the difficulty of enforcing a ruling that the chain used be humanely long enough and that the chained dog be provided at all times with a supply of drinking water.

2—Reducing the usefulness of the dog: My dogs, free to roam about my buildings and garden, have killed mongooses, rats and mice, animals swarming to our property when cane fields are burned in preparation for harvest.

3—A loose dog is a great deterrent to prowlers; a confined one has lost his efficiency.

Personally, I am not in favor of confining all dogs merely because of the nuisance caused by individual curs. If troublesome, the owners of such animals should be contacted or, if that brings no relief, the police. Incidentally, one of my tenants vacated my rental unit in Honolulu to my financial loss not because of dogs but because pollen scattered by a flowering royal palm caused severe hayfever. Should we therefore prevent the flowering of all wind-pollinated garden plants?

DOG OWNER

Redwood Beauty Periled

Editor, the Star-Bulletin: John T. Keane's letter explained the view of the redwood industry in reply to my earlier letter which explained the need for preserving the remaining old-growth redwood forests before they are destroyed. Mr. Keane stated correctly that about 75,000 acres are preserved as parks, and that the lumber industry has a "conservation" program and a "tree farm" program.

Mr. Keane neglected to show that the original stand was nearly two million acres and that half has already been cut. The parks consist of only 7 per cent of the remaining stand, and some parks are threatened with destruction from floods and erosion because of excessive logging adjacent to the parks.

Since the high majority of the remaining stands of these ancient, irreplaceable redwoods are not publicly owned, they are being cut or are scheduled for cutting. The U.S. Forest Service estimates that unless they are preserved, most of them will be gone no later than 1980. If they are destroyed, less than 4 per cent of the original stand will have been preserved.

What Mr. Keane and the redwood industries do not tell the public is that the industry's kind of "conservation" is **economic** conservation, aiming at producing board feet of lumber in the long run. Their program is a **threat** to **esthetic** conservation, for it aims at cutting all the biggest (and most beautiful) redwood first. The industry's goal is continuous profits, and it has found that small trees put on more board feet of growth when the big ones are eliminated. But it is the old-growth trees which constitute the splendor and uniqueness of the redwoods.

Mr. Keane said I "implied" that "the redwood industry is rushing to wipe out redwood forests." The industries want a continuous supply of redwood, but I wish to assert, not simply imply, that they **are wiping out** all the available old-growth redwood, and they show every intention of continuing until small new-growth trees become the sole source of lumber. With the help of the Hawaiian redwood market the big ones are falling fast.

It is necessary to encourage the Federal Government's nascent interest in forming a redwood national park to protect the remaining choice stands. Builders, buyers, and architects can help by requesting only the (cheaper and more beautiful) second-growth lumber when the use of redwood is necessary. Unless this is done the lumber industry will continue to send out their soporific "conservation" material and carry on their esthetic barbarism until another national tragedy is recorded in the history books.

I will be glad to forward more complete information to anyone interested. Write 2640 Dole Street, Apartment 6-A, Honolulu 14. WILLIAM H. BOYER

UNIVERSITY OF HAWAII

OFFICE OF THE PRESIDENT

September 12, 1962

Memorandum to: Horace F. Clay, Chairman
Hugh W. Brodie (HSPA)
Isa Degener
Donald P. Gowing (PRI)
Richard A. Hamilton
Robert L. Hind, Jr.
Robert H. Hughes
Charles H. Lamoureux
A. J. Mangelsdorf (HSPA-retired)
Morton M. Rosenberg
Henry H. Shigekane
Morris S. Shinsato
W. M. Wachter
Paul R. Weissich (Foster Botanical Garden)
Willard Wilson

Subject: Arboretum Committee

This is to notify you officially that I am reappointing you to serve on the Arboretum Committee for the academic year 1962-63.

I trust that you will accept this reappointment.

Laurence H. Snyder
President

LHS:ry

cc: Mrs. Brown

The good old days when leis sold for 50 cents each, or three for $1, were recalled recently by three lei sellers whose combined careers in the business total more than 139 years. Hon. Star-Bull.

Reminiscing at the annual dinner of the Aloha State Lei Sellers Association were: Mrs. Rose Kahou Lum, who has been a lei seller for more than 61 years, having started at the age of 9 with her parents.

Mrs. Lum recalled she was very young when the late James (Kimo) Wilder brought back from Samoa cuttings of the plumeria and grown plants for lei sellers. Many of the lei sellers planted the plumeria at their family grave plots, so the flower became known as "the graveyard flower," Mrs. Lum recalls. 5/2/67

Cut Palms—Blessing in Disguise?

The palms about the Kamehameha statue would never have come down had the suggestion ever been voiced, or subjected to a vote.

In agreement with Drs. Otto and Isa Degener, authors of Flora Hawaii, I believe the removal of the palms was a blessing in disguise not only for the fact that the trees were not indigenous to Hawaii, but because they "over powered" the statue with their height.

Better to afford the statue greater prominence with a low hedge, plumeria, or other flowering shrubs, presenting the king with an eternal lei in the true tradition of Hawaiian Aloha.

WARREN J. V

K 177

1858! ... Kronich... 21, 1962.
Near Graz, Austria.

Editor, Hon. Advertiser,
Honolulu.

Dear Sir:

I read with interest the article about building a dog house in your recent issue. May I warn dog-lovers that certain areas like the one in which I reside are heavily plagued with mosquitos. Some of these are carriers of the deadly, dog heart-worm.

We kept one of our dogs in the open at night with the result that he was dying horribly of heart-worm until we could get some chloroform to put him out of his misery.

Any dog house is an invitation to the catching of this disease unless some provision is made for screening against mosquitos. As this seems impracticable, we keep our three dogs confined during the night on our staircase in our home, free from mosquitos and free to attack any alcoholic or other intruder who occasionally fumbles at our front door knob.

When we go to the polls we are often in a quandary for which of two candidates to vote. Now that some candidates favor the dog leash law and others do not, I and my family no longer need hesitate in our decisions.

Biologist & Dog Owner

Waialua, Oahu

Polynesian Family System In Hawaii in Early Days

By DR. OTTO DEGENER

Note: Dr. Degener is a student of anthropology and of plant life in the tropics. He was a naturalist with the Hawaii National Park staff in 1929. The article below gives interesting, fascinating glimpses into early Hawaiian life and a sad lament on the passing of the Hawaiian customs as well as most of the full-blooded Hawaiian people. He is the author of several books and brochures including "Naturalist's South Pacific Expedition" and "Flora Hawaiiensis."

Though published in 1958 by the Polynesian Society in New Zealand, "The Polynesian Family System in Ka-'U, (Kau) Hawai'i," a book of over 250 pages, did not reach our Islands until a short while ago.

Dr. Degener

It is a scholarly and readable result of collaboration between the well-known haole anthropologists Dr. and Mrs. E. S. Craighill Handy of Virginia and Oahu, and the beloved kamaaina ali'i Mrs. Mary Kawena Pukui of Kau and Honolulu.

The study deals largely with the life cycle of the Hawaiian, unmodified by alien cultures, of the Kau District.

Its completeness and thoroughness are evidenced by its range from "Conception, Gestation and Birth" to "Sickness and Death."

The story that infanticide (a myth the reviewer ascribes mainly to early missionary writers) was rampant is exploded.

The unnatural, and rare, pleasure-loving mother who resented being hampered by children, found ready foster parents among a people unusually fond of children.

Abortion, under the direction of a medical kahuna, or the strangling of a new born infant, resulted mainly from misalliance between commoner and chief: No low-born person must survive to claim blood relationship to an ali'i.

KINSHIP SYSTEM COMPLICATED

The "kinship system" is far more complicated than that of Europeans, where any relative beyond that of second cousin is vaguely called a "connection."

The authors tabulate the Hawaiian terms parallel to those of the Maoris of New Zealand, again showing the close bond between these two magnificent sea-faring people. "Tutu," (grandmother) now commonly used, we learn, is new-fangled slang.

In "Traditional Manners and Customs and the Social Order" we realize how kindly, polite and hospitable Hawaiians of all classes were, their methods of eating, and their wearing of the lei.

"The Dispersed Community" explains the barter of lowland dwellers with their surplus fish and salt for the upland dwellers' surplus tapa-fibers and banana. The other chapters illuminate other phases of early culture.

A book would be exceptional if it lacked errors. This is not. Page 212 mentions the Floras and authority consulted for the scientific names of the plants used by the Hawaiians. These names are not always correct, nor can they be precise when specific names do not follow the generic.

TWO IMPRESSIONS — ONE MOURNFUL

Reading "The Polynesian Family System in Ka-'U, Hawai'i," leaves the reviewer with two impressions: first, the immense value of such timely collaboration between haole anthropologists and kamaaina seer. The study is truly based on the "unwritten literature" locked in the best minds of the older Hawaiians, literature that will be forever lost as they join their aumakua forebears Beyond. Secondly, this fascinating Paradise of the Pacific since its haole discovery by Captain Cook, about 15 centuries after its initial discovery by the Polynesians.

'HAWAIIANS LOSING CULTURE'

The Hawaiians are losing their culture, even the most delightful and useful phases, to that of Caucasian and Oriental immigrants.

Our Hawaiian mountains are fast becoming poor imitations of Oregon with evergreens, and Australia with eucalyptus, casuarina and paperbark.

Our forehills, overrun with thriving exotic weeds, already resemble horrid wastes of almost any part of the world.

Our steep canyons are being denuded into barren pastures by feral goats and mouflon. Our plains are being transformed into drab copies of India with axis deer, or of Wyoming, with antelope; and our once beautiful shores and beaches are being crowded out toward the Pacific by Miami-like canyons of cement, glass and aluminum.

How fortunate we older residents are to have known Hawaiians more as they are described in the Handy-Pukui study, and to have known the Hawaiian countryside before its transformation into something hardly typical of Hawaii.

Hawaiian Cane Resists Disease

A sugar pathologist reported yesterday the most planted variety of Hawaiian sugar cane has proved highly resistant to Fiji disease and moderately resitant to downy mildew.

Chances of these two diseases reaching Hawaii are much greater now than in the past because travel time has been reduced by jet speeds.

• • •

THE REPORT was given by Dr. C. A. Wismer, senior pathologist at the Hawaiian Sugar Planters' Assn. experiment station. He reported on Hawaiian sugar cane varieties tested in Fiji.

The variety found highly resistant to Fiji disease is known as 49-5.

• • •

BUT ONE other Hawaiian variety, also widely planted here, was found highly susceptible to both Fiji disease and downy mildew. This is known as 50-7209.

The tests in Fiji a[illegible] made in case one of [illegible] diseases might re[illegible] Hawaii.

• • •

DR. A. J. MANGE[illegible] principal geneticist a[illegible] periment station, s[illegible] Fiji disease comes [illegible] we would have to [illegible] 50-7209."

Tenure for comme[illegible] ieties in Hawaii [illegible] about 10 to 15 years [illegible] life. "It is a reasonable risk to keep planting 50-7209 on the chance these diseases will not reach Hawaii during its tenure," Dr. Mangelsdorf said.

• • •

It was just 79 years ago that something new was added to Hawaii's musical background—the ukulele!

And [illegible] the ukulele has almost been synonomous with Hawaii all these years, it was Joao Fernandes who arrived in Honolulu from the island of Madeira on August 22, 1879, who introduced the little four-string box to the Islands.

Its Portuguese name was "cavaquinhos" or "small piece of wood"—but in Hawaii, it was quickly dubbed "ukulele" or "jumping flea."

Now that little flea did quite a bit of jumping under the expert hands of Fernandes—and has been doing well in Hawaii ever since.

"For King Kalakaua, I played many times. For Queen Emma, also," Fernandes said. "And one time when I was playing at the Royal Hawaiian Hotel, Queen Liliuokalani heard my music. She sent for me and I played for her, too."

The introduction of the Spanish guitar apparently came by way of the Portuguese, also, although its first appearance in Hawaii is not specifically recorded. But the "steel guitar," a method of playing with a steel bar, became a symbol of Hawaiian seas and Hawaiian winds in 1885. It seems a boy who was attending school in Hawaii, felt a lack of minute-toned variations in an ordinary guitar. So, taking a comb, he ran it haphazardly over the strings to see what effect would emerge. The "effect" was so wailingly lovely, so gently liquid, that he had a bar made to run over the strings and the

A MONOGRAPH OF THE GENUS PLATYDESMA (RUTACEAE)[1]

BENJAMIN C. STONE[2]

THE GENUS PLATYDESMA was described by Horace Mann, Jr. (1866), to accommodate an unusual rutaceous species collected by him and William Brigham "on the mountains behind Honolulu" on the island of Oahu in the Hawaiian Islands. Mann presented a rather full description of the genus and its single species, which he named *Platydesma campanulata*. A few years later (1869) he again wrote of the genus and species, with almost unchanged descriptions, but added a few sentences pertaining to the circumstances of the discovery, and a fine full-page half-tone plate illustrating its habit and flowers. The species was noted by Heinrich Wawra (1873) without further description or commentary. In 1888, however, Wilhelm Hillebrand, in his great *Flora of the Hawaiian Islands*, added three species to the genus, two of them, *P. cornuta* and *P. rostrata*, described as new, and a third to which Hillebrand applied the name *P. auriculaefolia*, based on *Pelea auriculaefolia* A. Gray. As has previously been pointed out (Rock 1913, 1918; Stone 1961, 1962), Hillebrand erred in considering Gray's species to be a *Platydesma*, for it is a true *Pelea* of the typical section. However, the specimens which led Hillebrand to include a fourth species in *Platydesma* are, in fact, members of the genus. Rock (1913) named the taxon represented by these specimens *Platydesma campanulatum* var. *sessilifolia* (sic). This taxon is here considered to be of specific rank, agreeing essentially with Hillebrand's treatment, but clearly less distinct from *P. spathulatum* (the correct name of Mann's *P. campanulata*) than either *P. cornutum* or *P. rostratum* which Hillebrand first described.

The name now applied to this species has a curious history. Material collected by Jules Remy was provisionally determined by H. Baillon in Paris as *Claoxylon insigne* sp. nov. (*Claoxylon* is a genus of Euphorbiaceae, the fruits of which [in the Hawaiian species] bear a slight resemblance to those of *Platydesma*.) Remy's specimen bears only fruit. The name *C. insigne* was never validly published, but was listed (without description and only a herbarium reference) by Drake del Castillo (1890). Many years later, while revising the Hawaiian members of *Claoxylon*, E. E. Sherff happened to see the Remy collection and, relying all too heavily on the authority of Baillon, published the name *Claoxylon Remyi* Sherff sp. nov., with a full description. Recently the real identity of this "Claoxylon" became apparent to Dr. Otto Degener, who received confirmation from the Muséum National d'Histoire Naturelle of Paris that the plant was rutaceous. A lifelike drawing of the specimen was prepared (see FIG. 4) in which the character of *Platydesma* may readily by seen. The proper transfer of the name was made in Degener's Flora *Hawaiiensis* (1960), where the present writer was able to show that this species is identical with the one intended by Hillebrand to include his specimens from Kohala, Hawaii, to which he had appended the name *Platydesma auriculaefolia*. The species is now called *Platydesma Remyi* (Sherff) Deg., Sherff & Stone.

Only two other names must be considered in the genus, both published by H. Léveillé, whose erratic work, discussed at some length both by Rock and Rehder in recent years, scarcely needs further mention. The first is *Platydesma oahuensis* Lévl. (1911), which is simply a synonym of Mann's original species. The second, *Platydesma Fauriei* Lévl. (1911) is borne

People often phone and want to know why tulips, hyacinths and daffodils are not grown in Hawaii. It is discouraging to have to tell them that these bulbs require a cold treatment so it is almost impossible to make them perform under most of our growing conditions.

But we do have a number of tropical and sub-tropical bulbs that will grow and flower locally. The first one that comes to mind is the Amaryllis (Hippeastrum) with its huge white, red or pink lily-like flowers. The bulbs are large too and expensive but each bulb produces a number of flowers once a year.

THEY MAY be grown from seed or propagated by cutting the bulb longitudinally into several sections with three or four scales to each. If these sections are planted in a mixture of peat moss and sand, new small bulblets should form in about six months.

Gloriosa lilies are another good bulb. Gloriosa Rothschildiana is a climbing plant which produces lots of flowers. The recurved petals are a brilliant red with golden yellow edges. The flowers keep well as cut flowers.

For shady locations, Clivia miniata makes an excellent showing. This plant has wide green leaves with many orange flowers on stout stems. It is one of few plants that flowers profusely in the shade.

THE BLOOD lily (Haemanthus) produces a single bright red inflorescence six inches in diameter. This showy flower stalk stands between two bright green opposite leaves.

Eucharis lily is a large pure white flower of heavy texture resembling a white narcissus. It is very fragrant but not too widely grown locally.

Certainly a plant with a name like Watsonia should not be overlooked. While it is gladiolus-like, the petals are all the same size and shape. The flowers are white, fuschia, orchid, and pink. While I have seen Watsonias grown as good cut flowers at Kula on Maui, I'm not sure that they would flower well at sea level.

THE ZEPHYR flower (Zephyranthis) is a sort of replacement for a Mainland crocus. While there are many species of these American bulbs, I have seen only a few available locally.

Zephyranthis grandiflorn.

BOOK NEWS

THE ASA GRAY BULLETIN. Wilhelm Hillebrand. By Otto Degener. Published by the University of Michigan and the Michigan Botanical Association.

This is a brief appreciative sketch of the life of one of Hawaii's great benefactors.

In these bustling days of giant hotels, super markets, airplanes and tens of thousands of tourists the name of Dr. Wilhelm Hillebrand is almost unheard. But to him we owe much of Hawaii's floral beauty.

In 1821, in search of health, he came to Hawaii, then known as the Sandwich Islands.

He remained to regain his health and become enthusiastic and effective both as a physician and as a pioneer in importing trees, shrubs and plants to the Islands.

He was a member of the Privy Council in the court of Kamehameha V.

He came to Honolulu at the age of 30 and remained here for 20 years. His son William also became an enthusiastic botanist and horticulturist.

The Hillebrands imported litchi (lichee), mandarin orange, Chinese plum, Java plum, cinnamon, camphor and several kinds of shade trees.

They also brought in crows, goldfinches, Japanese finches, linnets, mynah birds, Japanese quail, rice birds, gold and silver and Mongolian pheasants, and a pair of deer each from China and Java.

* * *

Dr. Otto Degener, author of this article, is himself a horticulturist and botanist of note.

Born in New Jersey, he came to the University of Hawaii for study, got his master's degree in 1923, and since 1935 has been connected with the New York Botanical Gardens as a collaborator in Hawaiian Botany. The University of Michigan gave him the degree of Doctor of Science in 1952.

* * *

This brief sketch of Hillebrand's life is valuable for its summary of the introduction of many of Hawaii's plants and shrubs.

Hillebrand died in 1886 after long illness.

I have always been fascinated by the lore of spices, those mysterious and magical seasonings that have been an important part of our culinary practices for centuries. Recently I wrote about some of the more familiar—cinnamon and cloves, nutmeg and paprika. This time I'm going to discuss a spice that some of you may not know as well—saffron, which according to an old herbal quoted by Elizabeth David in her most recent book is a "useful aromatic of a strong, penetrating smell and a warm, pungent, bitterish taste."

Saffron is one of the most ancient and esteemed of all spices. Those wily traders, the Phoenicians, introduced it to the south of France and to England, where it still persists after hundreds of years in the saffron buns of Cornwall and old place names like Saffron Walden.

AS A FLAVORING, a dye and a medicine, saffron was highly prized in Europe in the fifteenth and sixteenth centuries and even today, it ranks as the costliest spice in the world. The miniscule vivid red threats are actually the dried stigmas of the crocus sativus, a fall-blooming purple crocus that is cultivated in Spain, Portugal and Italy, and it takes 75,000 flowers, picked by hand, to yield one pound of saffron. One of those little tins you buy for 65 cents contains only about 8/10ths of a gram of saffron, about a teaspoon. It would take 35 of these boxes to make just one ounce, which works out to around $364 a pound.

However, to quote Elizabeth David again, "One grain or 1/437th of an ounce of these tiny fiery orange and red threadline objects scarcely fills the smallest salt spoon, but provides flavoring and coloring for such a thing as a paella or a risotto or a bouillabaisse for four to six people." So you see, a very little goes a long way.

Risotta alla Milanese

To serve four, you'll need 1 cup rice, or maybe a little more, either long-grain rice or the imported Italian Arborio rice. If you use long-grain rice, it's a good idea to wash it first, and dry it on a towel.

Now melt 6 tablespoons butter in a large, deep and heavy skillet, either iron or Teflon-lined. When it bubbles, add 1 small onion, finely chopped. Saute until just wilted down to a delicate pale gold. Add the rice and toss it around with a wooden spoon to coat it well with butter, but do not let it brown. Add ½ cup dry white wine and let this almost cook away. Have ready in a saucepan 2 pints hot homemade chicken stock (or canned chicken broth or chicken bouillon cubes dissolved in water). Start adding the stock, about 1½ cups at a time, and let each addition cook away rather briskly, stirring the rice often. As the rice absorbs the stock, add more. Continue stirring and adding stock until the rice starts to get tender, then add a good pinch (about 1/16 teaspoon) of saffron, which you have pounded in a mortar and pestle and then steeped in about ¼ cup hot stock. Stir this into the rice very well, so it dissolves and distributes its lovely flavor and color.

When the rice is tender to the bite and almost dry, stir in 3 tablespoons butter and ½ to ¾ cup freshly grated Parmesan cheese. The grains of rice will be soft, creamy, yet separate, quite different from other rice dishes.

Serve the risotto in 4 heated soup plates, with melted butter and more grated Parmesan for your guests to add as they wish. In Italy, risotto alla Milanese is usually offered as a first course, or with certain meats such as osso buco—braised veal shank. I like to serve it as a main course for luncheon or supper, with a rather hearty salad of mixed greens and onion with a hint of garlic in the dressing, and a white Italian wine, followed by a simple dessert of fresh fruit.

Start playing around with saffron and you'll soon find it can bring a new, subtle and intriguing flavor to your cooking.

B O T A N I C A L N O T E S :

Dr. Bruce Cooil, Professor of Plant Physiology and Botany, University of Hawaii, will spend the first semester (1962-63) at the University of California at Berkeley. He will do research during his sabbatical.

Mr. Alvin K. Chock (society secretary) was married to Miss Yona Bielefeldt on June 18 at Kawaiahao Church.

Dr. Frederick G. Krauss, Professor Emeritus of Agriculture, University of Hawaii, and society charter member, died on June 5. Sympathy is extended by the society to his survivors.

Dr. Albert J. Bernatowicz, Associate Professor of Botany (in General Science), U. H., spent his sabbatical visiting marine biological stations and book stores in Puerto Rico, Italy, France, and England. He also taught one quarter at the University of Chicago and studied one term at Cambridge University (England).

Dr. Theodor Philip Haas, Retired Professor of Botany at the Philadelphia College of Pharmacy and Science, spent two months in Hawaii. He presented a talk entitled "Morphological observations on bananas and dates" at a special botany seminar at the U. H. on Sept. 17. The illustrated seminar was based on observations and investigations made with the United Fruit Company in Honduras, Panama, Colombia, and Peru. Dr. Haas hails from Munich, Germany, and was with the Philadelphia College for 19 years, and hopes to return here next year. His fields are morphology and taxonomy. While in Hawaii, he visited the islands of Maui and Hawaii, and observed Dr. A. Brash's collection of banana plants.

Drs. Otto & Isa Degener received a $6,000 grant from the National Science Foundation to continue botanical exploration of the Hawaiian Islands. This grant will enable Dr. O. Degener (Collaborator in Hawaiian Botany, New York Botanical Garden) to publish volume six of "Flora Hawaiiensis or New Illustrated Flora of the Hawaiian Islands."

Dr. Edward J. Britten, Professor of Agronomy, University of Hawaii, spent his sabbatical as a Fulbright fellow at the University of Melbourne in Australia.

Dr. Maxwell S. Doty visited botanical institutions and book stores in Australia, Indonesia, Philippines, Japan and Hong Kong, on a recent three weeks' trip. He spent over a week on the Russian research vessel "Vityaz" doing intercalibration work for the International Indian Ocean Expedition. This included investigations of the primary productivity of the Indian Ocean. He also made arrangements for algal material for research purposes from institutions at Hong Kong, Singapore and the Philippines.

T R O P I C S M A G A Z I N E: A new bimonthly publication, with many illustrations, appeared in June 1962. It is devoted to plants and gardens in tropical areas. Regular articles feature ferns, bromeliads, palms, aroids, tropical fruits, travel, and cooking. Subscription price is $4.00 per year (if subscription is made through the Society, our organization receives a $1.00 commission), or single copies (current issue only, $1.00).

The Horticultural Publications (P. O. Box 435, Coconut Grove 33, Florida) also publishes the Orchid Journal, The Orchid Weekly and other publications edited by Alex D. Hawkes.

RECENT PUBLICATIONS

AKAMINE, ERNEST K. 1962. Storage of fresh ginger rhizomes. HAES bul. 130.

BARTRAM, EDWIN B. (Oct.) 1961. Low altitude mosses from northeastern New Guinea. Brittonia 13(4): 368-380.

BRITTEN, E. J. (Oct. (Nov. 6)) 1961. An interesting growth relationship between two specimens of Erythrina sandwicensis. Am. Midl. Nat. 66: 504.

BUNTING, GEORGE S. (Sept.) 1962. Nomina conservanda proposita: (94) Monstera Schott. Taxon XI(7): 224.

DEGENER, OTTO, & ISA DEGENER. (Nov. 15) 1962. Franz Elfried Wimmer, 1881-1961, in Flora Hawaiiensis. 2 pp.

_____ (Nov. 15) 1962. Flora Hawaiiensis (Vol. 6). 30 pp., 12 figs. (Gonocormus, Doryopteris, Sphenopholis, Scirpus, Peperomia (key), Santalum, Fragaria, Tetraplasandra, Bacopa, Nicoteba and Helichrysum).

GOWING, DONALD P., & A. H. LANGE. (April) 1962. The impact of herbicide research on field practices in pineapple culture. Weeds 10: 118-120 (PRI tech. pap. 280).

_____ (July) 1962. Changing the color of flowers with floral chloroalkyl-carboxylyic acid. Proc. Amer. Soc. Hort. Sci. 80: 645-649.

HAWAII DEPT. OF LAND AND NATURAL RESOURCES. 1962. Index to laws relating to public lands. (Act. 32, Session Laws 1962). 28 l.

HAWAII NATURAL HISTORY ASSOCIATION. 1961. Kipuka Puaulu, self-guiding nature trail, Hawaii Volcanoes National Park. 12 pp.

HINE, R. B., & M. ARAGAKI. (Oct.) 1962. A new wilt disease of Carnations in Hawaii caused by Phytophthora parasitica. Hawaii Farm Sci. 11(4): 6, 1 fig.

KAMEMOTO, H. (Oct.) 1962. Some factors affecting the keeping quality of Anthurium flowers. Hawaii Farm Sci. 11(4): 2-4, 6 tabs.

KINCH, D. M., & J. C. RIPPERTON. 1962. Koa haole production and processing. HAES bul. 129.

LANGE, A. H. 1961. Factors affecting sex changes in the flowers of Carica papaya L. Amer. Soc. Hort. Sci. Proc. 77: 252-264.

_____. 1961. Responses of Solo papaya to mulching. Amer.Soc.Hort.Sci.Proc.77:245-251.

LeBARRON, RUSSELL K. 1962. Eucalypts in Hawaii: a survey of practices and research programs. Pacific Southwest Forest and Range Expt. Sta. misc. pap. 64, 23 pp., illus.

MOOMAW, J. C. 1962. Irrigated forage and grain sorghum trials at Kekaha, Kauai. HAES tech. prog. rpt. 134.

MURASHIGE, T., R. A HAMILTON AND J. T. KUNISAKI. (Oct.) 1962. Papaya retards Macadamia growth. Hawaii Farm Sci. 11(4): 1-2, 1 tab.

(Continued on page 12)

PACIFIC SCIENCE ASSOCIATION[1/] (Continued from page 32)

Prof. Robert F. Scagel (Chairman, subcommittee on Pacific algology), Dept. of Biology and Botany, University of British Columbia, Vancouver 8, B. C.; Prof. C. G. G. J. van Steenis (Chairman, subcommittee on Pacific plant areas), Rijksherbarium, Leiden, Netherlands; Dr. Mona Lisa Steiner (Chairman, subcommittee on vernacular names), Kempten Allgau, Augartenweg 35, Germany; Mr. R. Story (Chairman, subcommittee on Pacific plant ecology), C.S.I.R.O., P. O. Box 109, City, Canberra, A. C. T., Australia; Mr. Kasin Suvatabandhu, Botany Dept., Chulalongkorn University, Phya Thai Road, Bangkok, Thailand; Dr. Donald Walker (Chairman, subcommittee on Pacific palynology), Botany Dept., The Australian National University, Box 4, G. P. O., Canberra, A. C. T., Australia; Dr. E. H. Walker (Chairman, subcommittee on Pacific bibliography), 7413 Holly Ave., Takoma Park, Maryland; Mr. D. E. Yen (Chairman, subcommittee on Pacific plant genetics), D. S. I. R. Crop Research Division, Robinson Road, Otahuhu, New Zealand.

1/ Pacific Science Association Information Bulletin 14(5/6), Sept./Nov. 1962.

RECENT PUBLICATIONS

CHOCK, ALVIN K., & DEAN C. HAMILTON, JR. (Dec. 15) 1962. Plants of Christmas Island. Atoll Res. Bul. 90: 1-7, map.

CLAY, HORACE F., & JAMES C. HUBBARD. 1962. Trees for Hawaiian gardens. Univ. Hawaii, C.E.S. Bul. 87: 103 pp., 150 figs. $2.25.
This pictorial essay on ornamental horticulture and landscape uses of Hawaiian garden trees is the first of a series of Hawaiian garden books to be published by the Cooperative Extension Service of the University of Hawaii. The book is divided into five parts: growth (roots, structure, bark, leaves, and fruit), use (balance, protection, anchors, and special effects), landscape (the site, garden, cosmopolitan garden, Chinese garden, Japanese garden, and Hawaiian garden), care (preparation, planting, pruning and surgery), and selection (garden and street trees). The simple format and the outstanding photography by Fortunato Teho (Robert Wenkam photographed the full-page plates) make it an attractive and artistic publication. The last portion describes briefly 125 species of trees, pointing out the desirable and undesirable qualities of each as garden trees. Dr. Clay, Associate Specialist in Horticulture and Associate Professor of Horticulture, and Mr. Hubbard, Home Economist in Landscape Design, will prepare two additional volumes in this series of plants for Hawaiian gardens: shrubs, vines, and ground cover. (AKC)

DARWIN, CHARLES. (Dec. 15) 1962. Coral Islands. (with introduction, map and remarks by D. R. STODDART). Atoll Res. Bul. 88: 1-20, 1 map, 4 figs.

DEGENER, OTTO, & ISA DEGENER. (Jan. 18) 1963. Flora Hawaiiensis. Vol. 6; 34 pp., 14 figs. (Ceratopteris thalictroides, Doryopteris tryonii, Spenomeris chusana, Polystichum Hillebrandii, Pennisetum setosum, Cladium mariscus ssp. jamaicense, Gahnia kauaiensis, Rhynchospora sclerioides, Boussingaultia cordifolia, Magnolia, Pittosporum acuminatum (vars. Degeneri, leptopodum, magnifolium, and waimeanum), Fragaria, Bauhinia monandra, Dombeya, D. Burgessiae, and Rapanea sandwicensis (and var. mauiensis).

(Continued on page 34)

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Polynesian Family System In Hawaii in Early Days

By DR. OTTO DEGENER

Note: Dr. Degener is a student of anthropology and of plant life in the tropics. He was a naturalist with the Hawaii National Park staff in 1929. The article below gives interesting, fascinating glimpses into early Hawaiian life and a sad lament on the passing of the Hawaiian customs as well as most of the full-blooded Hawaiian people. He is the author of several books and brochures including "Naturalist's South Pacific Expedition" and "Flora Hawaiiensis."

Though published in 1958 by the Polynesian Society in New Zealand, "The Polynesian Family System in Ka-'U, (Kau) Hawai'i," a book of over 250 pages, did not reach our Islands until a short while ago.

Dr. Degener

It is a scholarly and readable result of collaboration between the well-known haole anthropologists Dr. and Mrs. E. S. Craighill Handy of Virginia and Oahu, and the beloved kamaaina ali'i Mrs. Mary Kawena Pukui of Kau and Honolulu.

The study deals largely with the life cycle of the Hawaiian, unmodified by alien cultures, of the Kau District.

Its completeness and thoroughness are evidenced by its range from "Conception, Gestation and Birth" to "Sickness and Death."

The story that infanticide (a myth the reviewer ascribes mainly to early missionary writers) was rampant is exploded.

The unnatural, and rare, pleasure-loving mother who resented being hampered by children, found ready foster parents among a people unusually fond of children.

Abortion, under the direction of a medical kahuna, or the strangling of a new born infant, resulted mainly from misalliance between commoner and chief: No low-born person must survive to claim blood relationship to an ali'i.

KINSHIP SYSTEM COMPLICATED

The "kinship system" is far more complicated than that of Europeans, where any relative beyond that of second cousin is vaguely called a "connection."

The authors tabulate the Hawaiian terms parallel to those of the Maoris of New Zealand, again showing the close bond between these two magnificent sea-faring people. "Tutu," (grandmother) now commonly used, we learn, is new-fangled slang.

In "Traditional Manners and Customs and the Social Order" we realize how kindly, polite and hospitable Hawaiians of all classes were, their methods of eating, and their wearing of the lei.

"The Dispersed Community" explains the barter of lowland dwellers with their surplus fish and salt for the upland dwellers' surplus tapa-fibers and banana. The other chapters illuminate other phases of early culture.

A book would be exceptional if it lacked errors. This is not. Page 212 mentions the Floras and authority consulted for the scientific names of the plants used by the Hawaiians. These names are not always correct, nor can they be precise when specific names do not follow the generic.

TWO IMPRESSIONS — ONE MOURNFUL

Reading "The Polynesian Family System in Ka-'U, Hawai'i," leaves the reviewer with two impressions: first, the immense value of such timely collaboration between haole anthropologists and kamaaina seer. The study is truly based on the "unwritten literature" locked in the best minds of the older Hawaiians, literature that will be forever lost as they join their aumakua forebears Beyond. Secondly, this fascinating Paradise of the Pacific since its haole discovery by Captain Cook, about 15 centuries after its initial discovery by the Polynesians.

'HAWAIIANS LOSING CULTURE'

The Hawaiians are losing their culture, even the most delightful and useful phases, to that of Caucasian and Oriental immigrants.

Our Hawaiian mountains are fast becoming poor imitations of Oregon with evergreens, and Australia with eucalyptus, casuarina and paperbark.

Our forehills, overrun with thriving exotic weeds, already resemble horrid wastes of almost any part of the world.

Our steep canyons are being denuded into barren pastures by feral goats and mouflon. Our plains are being transformed into drab copies of India with axis deer, or of Wyoming, with antelope; and our once beautiful shores and beaches are being crowded out toward the Pacific by Miami-like canyons of cement, glass and aluminum.

How fortunate we older residents are to have known Hawaiians more as they are described in the Handy-Pukui study, and to have known the Hawaiian countryside before its transformation into something hardly typical of Hawaii.

By EMMA LYONS DOYLE

Hon. Adv. 6/12/60

Little known, and overgrown with tall grass and weeds, there lies in the Wahiawa region of Oahu one of the most ancient of surviving landmarks of Hawaii's past, so ancient indeed, that it had "fallen into decay" at the time of Kamehameha I.

To those who were born within its area, Kukaniloko bestowed mana of the highest degree—rank, power and sacredness that only those deeply versed in authentic Hawaiian lore can fully understand.

• • •

NONE BUT tabu chiefs could avail themselves of this privilege. Some, it is said, were born near its border, or even on the highway. "These were chiefs indeed, but not tabu chiefs."

In a paper prepared for the Daughters of Hawaii some years ago, Mrs. Lahilahi Webb, one of our late beloved authorities on such lore said:

"The south side of Kukaniloko was a furlong and a half, and the western side, two furlongs. A row of stones was laid down on the right side and another on the left. There stood the chiefs, 18 on each side at the time of the birth. A mound was made for the back (evidently the mother's back).

"If one came in trust, and lay properly upon the supports, the child would be born with honor, and would be called a chief divine, a burning fire.

"The common people were allowed to assemble on the east side of the stream, Kukaikua, and the servants on the north side."

Lahilahi said that she was quoting "from an early writer," but unfortunately did not say who it was.

• • •

FORNANDER WROTE: "The building up and consecrating of Kukaniloko, that peculiarly hallowed place of the birth of the highest chiefs, is universally ascribed to Nanakaoka, an Oahu chief of considerable note. He and his wife, Kahikiokalani, are by the oldest and by all the legends acknowledged as having built this famous place, the remains of which are still pointed out . . .

"So highly were its dignities and privileges prized, even in latest times, when the ancient structures and surroundings had fallen into decay, that Kamehameha I, previous to the birth of Liholiho, made every arrangement to have the accouchement take place at Kukaniloko, but the illness of Queen Keopuolani frustrated the design . . .

"Kalaimanui, who followed her mother as Queen of Oahu, was born at Kukaniloko. Kakuhihewa, who became one of the great kings of Oahu, was also born at Kukaniloko, the account of which is more specific than the others.

"He is said to have been born in the sleeping place consecrated by the tabu of Liloa. From there he was taken to Hoolonopahu by his grandfather, Kanehoalani. Forty-eight chiefs of the highest rank were present at the ceremony of cutting the navel string of the newborn chief, and the sacred drums, named Opuko and Hawea, announced the important event to the multitude.

"Hoolonopahu was probably a heiau wherein were kept these celebrated drums of Hawaiian history."

(It may be noted here that early Hawaiians, hearing the story of Bethlehem, asked who beat the drums when Jesus was born—drum beating being customary in Hawaii at the birth of a high chief.)

• • •

ON A VISIT to Kukaniloko many black stones of various sizes and peculiar shapes were found among

L. W. BRYAN, HEAD TERRITORIAL forester on Hawaii, tabulates a 26-year-old koa on land of the Bishop Estate in the Honaunau forest

COWS AND KOA DON'T MIX. They trample the ground which damages the trees' roots, and eat all of the young seedlings

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Reviewer Terms New Hawaiiana Book As Scholarly, Very Readable

Hilo Tribune-Herald
2/12/60

By DR. OTTO DEGENER
Naturalist
Of Hawaii National Park, 1929;
Author Of Plants

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were so vicious they couldn't be handled without heavy gloves. But after a little kava they not only became docile, but could walk along a rotating rod without losing their balance.

57

"AND THEY SUFFERED no hangover," he added. "Maybe that explains why the South Sea islanders who take kava lose their anger and feel peaceful and happy."

But while kava is still in daily use in most Fijian villages, and is even served in many stores and offices instead of a cup of coffee as is common in Hawaii, one chief banned the use of kava not long ago in his village for all persons under 50 years of age.

"The drinking of yaqona by young people hinders the progress of Fijian village life," he explained.

Another drink finding favor here is the "palm-toddy," a whitish, bitter-sweet sap extracted from wild date palms.

The sap is taken from the trunk of the tree in a manner somewhat similar to the way rubber trees are tapped. While fresh, it has much the same potency as beer, but after fermentation, it gains new wallop.

ditional wooden bowl.

This is the same drink that was subject of a report a few years ago by Drs. F. L. Tabrah and B. M. Eveleth and discussed in the Hawaii Medical Journal. They said the drinking of 15 grams of the rootstock of Piper Methysticum mixed in half a pint of water would "pleasantly paralyze, at the cord level, sensory transmission."

THE REPORT went on to say, "A euphoric state develops, during which the mind remains clear; the drinker is tranquil and friendly, and refuses to be annoyed; and finally, if the dose is enough, sleep ensues."

The doctors added that upon awakening, there would be no hangover.

Traditionally in these South Pacific islands, kava is prepared from the Piper Methysticum bush root, by chewing the root and spitting the macerated remains into a bowl, at which time it is then diluted and strained.

Dr. Joseph P. Buckley of the University of Pittsburgh also made a study of this ancient drink using rats that

Honolulu Star-Bull 12/2/56

Reed Craft Is Taught Here To Retarded Boys

Boys in ungraded Ala Moana School, where retarded children get special training, are learning an art little-known in the Islands.

Ala Moana has the only school classroom where reed craft is taught, the Department of Public Instruction reports.

• • •

TEACHER IS William S. Kan, instructor in shop and gardening. He gets the reeds from Hong Kong through the American consulate.

Similar to sugar cane in appearance, the reed grows horizontally, stretching along the jungle floor 100 to 200 feet. The "cane" is the inside core, the "peel" the outside used in chairs.

• • •

BOYS IN Mr. Kan's classes make reed hampers, lamp stands, coffee tables, end tables, model sailboats, baskets and fern stands.

SUVA, Fiji — Centuries before the first explorers and whaling ships ventured into the South Pacific and the hard drinking sailors in that era of iron men and wooden ships landed on the palm-fringed shores of these isles with their tot of rum, the custom of a "friendly drink" had long been established.

Here, the cup of good cheer was known as kava or yaqona, and elsewhere in Polynesia and Melanesia, it was awa, kawa and sometimes ava — and was an essential part of the ceremonial and religious life of the islands.

The "friendly cup" has gone the way of many of the old island customs, however

— virtually abandoned in the islands of French Polynesia, New Caledonia in the Cook and Ellice islands and even as far north as Hawaii. It is still available at times in American Samoa, and more so in Western Samoa and extensively in Tonga.

BUT IN FIJI it might well be labeled the national drink. Even the Hindu people use kava at their religious ceremonies and for a friendly sip through the working day or for guests.

Visit the villages where most of the population still lives in the traditional thatched huts, and inevitably a cup of kava will be brought forth, sometimes in the tra-

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How fortunate we older residents are to have known Hawaiians more like they are described in the Handy-Pukui study, and to have known the Hawaiian countryside before its phenomenal transformation into something hardly typical of Hawaii.

Barringtonia

Another tree that resembles the false Kamani and can easily be mistaken is Barringtonia asiatica, the tree hutu. If you just casually examine the leaves they resemble the false Kamani, although they are more leathery in texture.

When the Barringtonia is in fruit the quadrangular heart-shaped fruit is quite characteristic, four inches long with a spongy covering over a bitter poisonous seed that used to be grated and spread on the water to kill fish.

Flowers with masses of white red tipped stamens open during the night and fall off the tree the next day. They look like shaving brushes six inches in diameter.

True Kamani

The true Kamani (Calophyllum inophyllum) really is quite different when you examine it closely. In the first place the flowers look like large orange blossoms an inch in diameter and the fruit is round with a corky covering over the kernel.

The tree is large. Old specimens reach 60 to 70 feet in height. The branches are covered with rough gray bark and the leathery leaves are 6 to 8 inches long.

Kamani wood is hard and formerly was used for cabinets, boats and even calabashes. To some Polynesians the Kamani is sacred. While it does not seem to be planted as freely today as the false Kamani, several gracious old specimens are prized possessions in Hawaii.

So the most clearly distinguishing features are: False Kamani—football shaped fruits; Barringtonia —large shaving-brush-like flowers; True Kamani—smaller round fruits.

CAPTAIN COOK, Hawaii — Kona coffee has emerged as the Cinderella product of Hawaiian agriculture.

But producers are watching the clock and wondering what will happen on the stroke of midnight.

A giant Mainland firm, Superior Tea and Coffee Co., appeared as a fairy godmother last year when things looked bleakest for the venerable Kona industry, the United States' only coffee producers.

WITH A single wave of its corporate wand, Superior resolved one major problem, marketing. The Chicago-based firm agreed to buy — for a premium price — and distribute Kona's entire coffee output.

Celtuce has tasty leaves, tender stalk.

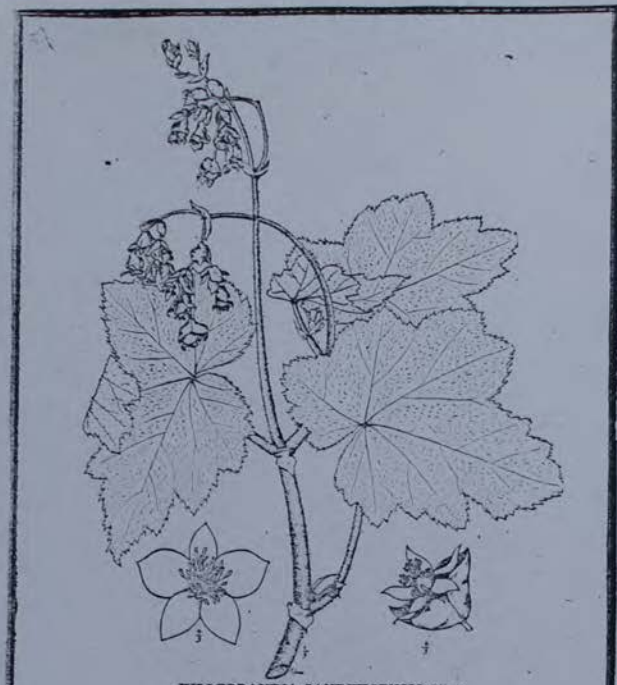
But the farmers still were left with two problems: A dependable labor supply and assurances of tenure at reasonable rents on land at which the subdividers are casting increasingly covetous glances.

With a firm market and a new price stability, however, hopes are high that Kona coffee will become a true princess with an assured place at the international gourmet table.

The Kona Coffee Association has recognized for years that the salvation of its product lay in the specialty field.

KONA COFFEE has a truly distinctive flavor, a happy result of the combination of lava soil on Mauna Loa's western slope and a urecise temperature and amounts of sunshine, shade and moisture needed.

But, although it has long been in demand as an exotic blend, its price has traditionally been tied to the world market, with more ups and downs than a Woodstock Festival.



HILLEBRANDIA SANDWICENSIS Oliver

HILLEBRANDIA

Lovely Native Begonia named in Honor of Dr. William Hillebrand (After Otto Degener)

near Heidelberg and overlooking the Rhine.

Fortunately, his son Dr. William F. Hillebrand, chemist then connected with the bureau of standards in Washington, D. C., with the help of Prof. E. Askernasy of Heidelberg, carefully and expertly edited the work, publishing it posthumously in 1888.

• • •

Curiously enough, though Dr. Hillebrand's Flora of almost 800 pages is written in English, it was evidently printed in Heidelberg, the Prussian government contributing 1,000 marks toward defraying expenses. How large an edition was printed I do not know.

Though the book, long thought out of print, has been a rare collectors' item and invaluable aid to botanists interested in Hawaiian plants, I discovered unbound copies in Germany some 20 years ago, importing several dozen for local use. This German supply was probably lost during the second world war.

A few of Dr. Hillebrand's historical herbarium specimens exist, mostly in fragmentary form in the Bishop Museum and in other institutions in America and Europe. The main collection, following a verbal wish expressed a few hours before his death, had been bequeathed to the botanical museum at Berlin-Dahlem. This collection of inestimable scientific value was almost totally destroyed, excepting for the ferns, toward the latter days of the Second World War by our air force.

Dr. Hillebrand's Flora was an excellent book for its time, superior in many ways to Floras written by contemporary professional botanists. But botany and other sciences are not static. They have progressed by leaps and bounds since 1888. Also, new roads and trails have been opened up in the Islands, enabling present botanists to penetrate regions closed in Hillebrand's time and harboring plants hitherto unknown.

Not only that, thousands of exotic plants have reached our shores, both purposely and accidentally by man since 1888. A modern Flora Hawaiiensis must include all these. To be correct it must be built upon the firm foundation established by our greatest pioneer botanist, Dr. Hillebrand.

Dr. William Hillebrand, versatile citizen of the kingdom of Hawaii, was one of the titans of his time. Hawaii nei gained immeasurably by his 20 years' residence.

Island Plant Data Is In Degeners' Book

Hon. Adv. 11/31/60

Each year Dr. Otto Degener, with the assistance of his wife, also a skilled botanist with a doctor's degree, produces another series of contributions to his loose-leaf illustrated flora of the Hawaiian Islands. During the past few years this project has been aided by a grant from the National Science Foundation.

Just how many sheets come out each year is hard to tell. This reviewer received 35 during 1959, but that may not be all that these industrious botanists have published.

• • •

ONE SHEET is devoted to a species. On one side is a scientific description of the plant and notes on its distribution. On the other is a drawing of various parts of the plant, those most useful for its identification. These generally include a small branch, showing leaves and flowers or fruit, around which are grouped details of flower parts, fruits, and the like.

Some of the plants are species new to science. Others are long established kinds. Some are native to the Islands, others are introduced species.

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THE DEGENERS have undertaken a huge task. It is estimated conservatively that there are at least 3,500 different kinds of plants growing in these islands. The five volumes published to the end of 1957 contain descriptions of about 650 species. Perhaps 50 more have appeared since then. Thus, the job is about one-fifth done, and long before its completion there will be many more species of plants introduced into Hawaii.

However, a splendid contribution is being made, and we salute the authors, and commend their work to all those interested in the flora of the Hawaiian islands.—E. H. Bryan Jr.

Reviewer Terms New Hawaiiana Book As Scholarly, Very Readable

Hilo Tribune-Herald, 2/18/60

By DR. OTTO DEGENER
Naturalist
Of Hawaii National Park, 1929;
Author Of Plants

Though published in 1958 by the Polynesian Society in New Zealand, "The Polynesian Family System in Ka'U, Hawai'i," a book of over 250 pages, did not reach our islands until a short while ago. It is a scholarly and very readable result of collaboration between the well-known "haole" anthropologists Dr. and Mrs. E. S. Craighill Handy of Virginia and Oahu, and the beloved 'kamaaina ali'i" Mrs. Mary Kawena Pukui of Kau and Honolulu.

The study deals largely with the life cycle of the Hawaiian, unmodified by alien cultures, of the Kau District. Its completeness and thoroughness is evinced by its range from "Conception, Gestation and Birth" to "Sickness and Death."

★ ★ ★

That infanticide, a myth the reviewer ascribes mainly to early missionary writers, was rampant is exploded. the unnatural and rare pleasure-loving mother who resented being hampered by children, found ready foster parents among a people unusually fond of children. Abortion, under the direction of a medical "kahuna" or the strangling of a new born infant, resulted mainly from misalliance between commoner and chief; no low-born person must survive to claim blood relationship to an "ali'i."

'The Kinship System" is far more complicated than that of Europeans, where any relative beyond that of "second cousin" is vaguely called a "connection." The authors tabulate the Hawaiian terms parallel to those of the Maori, again showing the close bond between these two magnificent sea-faring people. Tutu, now commonly used, we learn, is new-fangled slang.

In "Traditional Manners and Customs and the Social Order" we realize how kindly, polite and hospitable Hawaiians of all classes were, their methods of eating, and their wearing of the "lei"; while "The Dispersed Community" explaines the barter of of lowland dwellers with their surplus fish and salt for the upland dwellers' surplus tapa-fibers and banana. The other chapters illuminate other phases of early culture.

A book would be exceptional if it lacked errors. This is not. Page 212 mentions the Floras and authority consulted for the scientific names of the plants used by the Hawaiians. These names are not always correct, nor can they be precise when specific names do not follow the generic.

★ ★ ★

Reading "The Polynesian Family System in Ka'U, Hawai'i" leaves the reviewer with two impressions:

First, the immense value of such timely collaboration between "haole" anthropologists and "kamaaina" seer. The study is truly based on the "unwritten literature" locked in the best minds of the older Hawaiians, literature that will be forever lost as they join their "aumakua" forebears Beyond.

Secondly, the pathetic and truly frightening change that has come to this fascinating Paradise of the Pacific since its "haole" discovery by Captain Cook, about fifteen centuries after its initial discovery by the Polynesians.

The Hawaiians are losing their culture, even the most delightful and useful phases, to that of Caucasian and Oriental immigrants.

Our Hawaiian mountains are fast becoming poor imitations of Oregon with evergreens, and Australia with Eucalyptus, casuarina and paperbark; our forehills, overrun with thriving exotic weeds, already resemble horrid wastes of almost any part of the World; our steep canyons are being denuded into barren pastures by feral goats and mouflon; our plains are being transformed into drab copies of India with axis deer, or Wyoming with antelope! and our once beautiful shores and beaches are being crowded out toward the Pacific by Miami-like canyons of cement, glass and alumi-num.

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The sauce made from the carissa is an excellent substitute for cranberry sauce. It is excellent also for making fruit salad.

Native of Africa

The carissa is a native of Natal, South Africa; hence, the name Natal plum. It is found on the markets there most of the year, since it bears a heavy crop in summer and a lighter crop throughout the year. It is grown in Southern Florida and California. It may be grown in any locality where the temperature does not drop more than three or four degrees below freezing.

The carissa may be grown throughout the tropics, though its best growth seems to be under subtropical, rather than tropical, conditions. It is not particular as to soil or moisture. It thrives in both moist and dry regions, as well as near sea level or high on the mountains.

Next week, carissa propagation.

Carissa Free From Diseases, Insect Pests

Hon Star-Bull 2/28/37

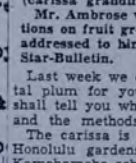
By N. F. AMBROSE

This is one of a series of articles on Hawaiian Fruits by N. F. Ambrose of Kona. It is the second of two installments devoted to the carissa or Natal plenm (carissa grandiflora).

Mr. Ambrose will answer questions on fruit growing in Hawaii, addressed to him in care of The Star-Bulletin.

Last week we described the Natal plum for you. This week we shall tell you where it is growing and the methods of propagation.

The carissa is growin gin many Honolulu gardens, at the former Kamehameha school farm at Koko Head, at the Healeakala sub station at 2,100 feet and at the writer's Kula home at 4,000 feet above sea level and on all the principal islands of the group. It will thrive where you live.



Mr. Ambrose

The carissa may be propagated by seed, cuttings, layering, budding, grafting and airlaying. The most common, though not the best method, is by seed. Seed germinates well, even after long storage, but the seedlings grow slowly. However, plants should begin bearing at two years. It has been noted here, as well as on the mainland, that many plants from seed do not bear. The reason is not known, though reasons have been advanced but not well proven.

Cuttings Do Not Root

Cuttings taken direct from the tree do not root readily, but if small branches six inches long are cut half through, then bent downward and allowed to hang for six or eight weeks, a callus forms on the cut surface and, if placed in sand box, the cutting will root in a few weeks.

Air layering works well and in areas of abundance of rainfall will form roots without watering, if moss is used in box six inches

Mr. Ambrose

story.

The beautiful most tropical carissa, unlike fruits, is a good keeper and can be shipped long distances where it may be enjoyed by persons hundreds of miles away.

Suggests Raspberries

The carissa is a small glossy, crimson fruit one and one half inches long and half as thick. The fruit is firm and when cut exudes a white milky substance. The flesh itself is pink. It may be eaten from the hand or made into excellent jams and jellies. The flavor is suggestive of raspberries.

The tree, which begins bearing when less than two feet high, may be grown as a shrub or as a small tree 12 to 18 feet high. It is extremely throny, being exceeded only by the gorse. For this reason it is used as a hedge. When trimmed as a hedge, it becomes more compact or thick and is such an effective barrier that cattle or horses will not go through. Even hogs find its spines too sharp to push through. The leaves are short thick and glossy, one or two inches long. The flowers are white and star like with five petals. The flowers are pleasantly fragrant.

According to Alice R. Thompson of the University of Hawaii, the total solids are 21.55 per cent, ash 43 per cent acids 1.19 per cent, protein .56 per cent sugars 12 per cent fat .03 per cent and fiber .91 per cent. The fruit is just sweet enough to be pleasant eating from the hand.

Carissa Fruit Can Be Shipped Long Distance

H-S-T- 3/21/37

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Many of our tropical fruits are too soft to stand shipping long distances, and as a result are seldom seen far from their natural habitat except in the dried or canned state. No one could even guess how delicious the fresh litchi is who has only eaten the canned or dried fruit. Ninety nine persons out of each hundred who eat and enjoy the cashew nut never tasted or saw a cashew apple. The sugar apple and cherimoya are never eaten far from where they grow.

We might say the same about dozens of our other tropical fruits.

The durian is seldom shipped over long distances. We daresay, even that the inter-island would not accept a crate of them to ship from Kauai to Hilo. Even if they did the fruit would be thrown overboard before reaching its destination—! If it was not thrown overboard, the crew might jump overboard. This is not the story of the durian so we shall tell the rest in another

DRAMATIC DISPLAY of Dracaena Marginata, a close ti relative, grown in the old Hawaiian garden of Mrs. Augustus Holt in Kaimuki. This plant has become a favorite in island landscaping with its spiky foliage and regular lineal distinction of branches forming a staccato silhouette. (Advertiser photo.)

white stripes and spots.

Noblis—Elliptical blades of of dull green with dirty green spots.

Chelsonii — Leaves of deep, satiny green and blades blotched with yellow-green.

Imperator — Leaves 16 to 18 inches long, 5 to 6 inches wide, olive green and fantastically blotched, marbled, and spotted with pale yellow and white.

Jenmanii — Leaves of rich, light, glossy green with silk-white bands and white spots between the bands.

Splendens — Leaves with faint mottling of dark and light green, a thick ivory-white midrib and a lustrous surface.

Sanderae — Broad, oval green leaves with a mottled cream color.

Specimens Displayed

The many variations of leaf size and color, plant size and characteristics is sometimes confusing to the green thumb artists who may be interested in single varieties or pleasing combinations for a shaded area of their garden.

One easy way to make comparisons or to identify favorite types is to see the massed display of at least seven or eight varieties on exhibit at Foster Park Botanical Garden. Here such varieties as Oerstedii, Baraguiniana, Jenmanii, Amoena, Bausei and Splendens are grouped together for comparison.

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Island Plant Data I

In Degeners' Book

Hon. Adv. 1/31/60

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RECENT PUBLICATIONS (Continued from page 11)

NAKASOME, H. Y., & H. KAMEMOTO. 1962. Anthurium culture, with emphasis on the effects of some induced environments on growth and flowering. HAES tech. bul. 50.

NELSON, ROBERT E. 1962. Forest products harvested in Hawaii: 1958 and 1960. Pacific Southwest Forest and Range Expt. Sta. misc. pap. 71, 3 pp.

SHAW, H. K. AIRY. (Sept.) 1962. Nomina conservanda proposita: (93) Pandanus L.f.; (95) Pittosporum Banks ex Solander. Taxon XI(7): 223-225.

WIJK, R. VAN DER, & W. D. MARGADANT. (Sept.) 1962. New combinations in Mosses VII. Taxon XI(7): 221-223.

DUES NOTICE - 1963

The membership dues for the 1963 calendar year are payable on or before the first meeting (Jan. 7) of the year 1963. Please remit the sum of two dollars ($2.00) to the Treasurer (Mr. William M. Bush, Castle & Cooke, Inc., P. O. Box 2990, Honolulu 2, Hawaii). Membership dues include receipt of the HAWAIIAN BOTANICAL SOCIETY NEWSLETTER.

Membership applications and information may be obtained by writing to the Hawaiian Botanical Society, c/o Department of Botany, University of Hawaii, Honolulu 14, Hawaii.

HAWAIIAN BOTANICAL SOCIETY NEWSLETTER
c/o B. P. Bishop Museum

"MIX-UPPED" BOTANICAL NOMENCLATURE

Editor The Star-Bulletin,

Sir: I am quite sure I owe Otto Degener an apology for trying to attribute to him a grass identification which I am sure was made by some other botanical authority whom I can not just now remember but who pointed out the relationship between the "buffalo" grass of the southern Kansas prairies and the "manienie" grass of Honolulu lawns. Owing to my admiration for Mr. Degener's talents and his uniformly gentlemanly conduct, I rather subconsciously tried to point to him as authority.

However, even Mr. Degener's letter, reading closely, discloses there is merely a mixup in botanical nomenclature. He identifies "manienie" as —which I am sure is correct—Bermuda grass, or Capriola dactylon (L.) Kuntze, and our local buffalo grass as Stenolaphrum secundatum (Walt.)."

Mr. Editor, never would this writer dare "tread," etc. But, personally, if this local buffalo grass is the name Mr. Degener calls it, well, by gingerI I sure think it must have been them thar water buffaloes.

If the "manienie" of Hawaii isn't our old Kansas "buffalo" (bison) grass of 40 and/or 50 years ago, then I'm willing to graze on it—even risking hay fever—for a full day of 12 hours. I observed that thar Kansas and Oklahoma buffalo grass every day —except when it was obscured by snow—for 10 years, and I have observed "manienie" unobscured by anything but an occasional muddy flood which did it good—for 36 years.

A rose by any other name."

But, thanks, Mr. Degener for your letter.

YLLEK.

MEMORIES—AND MANIENIE

Editor The Star-Bulletin,

Sir: In a letter entitled Ah, Sweet, Sad Memories, printed October 31 in The Honolulu Star-Bulletin over the pseudonym Yllek, it is intimated that I consider "the buffalo grass of the prairies . . . the same as the 'manienie' grass of Honolulu lawns."

The manienie grass of the Hawaiian islands is the introduced Bermuda grass known scientifically as Caprola dactylon (L.) Kuntze. It grows throughout the territory at lower elevations in sunny situations and, though a common cause of hay fever, is our most prized lawn grass. The plant locally called buffalo grass is correctly called "St. Augustine grass." It is known scientifically as Stenolaphrum secundatum (Walt.) Kuntze. It is planted to develop lawns in shaded places.

The only grass mentioned and illustrated thus far in my three Hawaiian plant books is the sugarcane. Although I have studied Hawaiian plants (both beneficial and pests) since 1924, I must confess I have thus far failed to come across either the prairie buffalo grass or Yllek—both are equally unknown to me.

OTTO DEGENER.

our suggestion for today! Is a vegetable frequently relegated to the seed catalogs' back pages. Malabar spinach, known scientifically as Basella alba

NATIVE TO Africa and tropical Asia the spinach is a succulent, branching vine that grows rapidly to a length of several feet. Young leaves and branch tips are high in vitamin A and C.

The vine produces an abundance of large, heart - shaped, glossy green leaves on stems that crawl on the ground. It also can be trained to climb fences walls and trellises

The vine is extremely tolerant to heat and will grow in most types of island soils. It does best in well-drained soil in full sun. Occasional irrigation and fertilization keep it thriving for a long time.

Most practical means of propagation is by planting seed available at local garden houses or Mainland seed compa-

Hawaiian Shell Collecting

Hon Adv. 6/9/57

By NAUTILUS ARGONAUT

113. Families of Gastropoda 3.

This list completes the group of shell families found in Hawaiian waters which make up the large order Mesogastropoda.

The scientific name of the family is followed by its popular name and the number of the article in this series which describes it:

• • •

Order Mesogastropoda, continued:

Superfamily AMALTHEACEA.

Fossaridae, ditch shells, 106.

Merriidae (Vanikoridae), velvet shells, 101.

Amaltheidae (Hipponycidae), hoof shells, 96.

Superfamily CALYPTRAEACEA.

Calyptraeidae, cup and saucer and slipper shells, 97.

Superfamily STROMBACEA.

Strombidae, conch shells, 16.

Superfamily NATICACEA.

Naticidae, moon shells, 20.

Superfamily LAMELLARIACEA.

Eratoidae, coffee-bean shells, 31.

Superfamily CYPRAEACEA.

Cypraeidae, cowries, 5.

• • •

Superfamily TONNACEA

Cassididae, helmet shells, 15

Cymatiidae (Trionidae, Septidae), triton, 90, 91, 92.

Bursidae (Renallidae), ridged frog shells, 89.

Tonnidae (Dolididae), tuns, 12.

Dissension Among the Missionaries

The story to date: Maria Patton, age 15, was one of four single "females" sent to Hawaii as teachers and assistants by the Boston Board of Foreign Missions. They arrived in Honolulu March 30, 1829, after a trip of 148 days around the Horn.

Maria Patton was married September 1, 1829 to Levi Chamberlain, secular agent of the Hawaii Missions. The Chamberlain's had eight children. Warren, 7, and Evarts, 5, were sent back to New England to be educated. The other children were saved the agony of separation by the opening of Punahou School in 1841. Levi Chamberlain died of tuberculosis in 1849 and the widow Chimberlain elected to stay in Honolulu in the house built by her husband. She supplemented her $250 annual pension by taking in boarders.

Hon Star-Bull

Theodosa Green died in 1859. She was the wife of the Reverend J. S. Green with whom Maria Patton Chamberlain had become a lifelong friend on their trip together around the Horn on the ship Parthian. 2/17/61

The Greens had lived a trying missionary life, first in Hilo and then on Maui.

Dissension stirred the missionary group in 1842.

A debate raged over the question of taking support money contributed by southern slave holders. Many serious minded missionaries felt they could not accept tainted money and withdrew from the mission. Among them was the Reverend J. S. Green and his faithful wife Theodosa.

Mr. Green decided to earn a living as a farmer and put his trust in the Hawaiian people as a minister.

He moved his family to Makawao, Maui, and became Hawaii's pioneer wheat farmer.

Mr. Green continued his mission work as though he were still connected with the Beard. He conducted Sunday services at his own Makawao home and regularly visited stations located in an area of 30 miles.

When Kamehameha announced the Great Mahele of 1849, Green was made a Maui commissioner and helped Hawaiians save 1,400 acres of land for their families. The Green family believed that every man should be able to sit under his own vine and fig tree.

With the price of flour sky-high in 1851, he set an example by raising 100 acres of wheat.

He wrote a report for the Royal Agricultural Society: "Two boys of 14 and 16 years of age have been my only helpers. They were handy in the management of oxen and besides doing most of my plowing, they took care of the cows and did my milking. The wheat land they plowed, and after lying a while in the furrow to allow the Kolea (migrating bird) to destroy the crop of Peelua (caterpillars), we furrowed the field and gave it a second plowing. The Kolea gave the furrows another cropping, after which we prepared for sowing."

It was in this way Mr. Green solved the problem of the Peelua, the cutworm which had defeated Daniel Chamberlain, farmer, who came with the Pioneer Company to Hawaii.

Next: Lorrin Andrews quits.

Hon. Adv. 5/3/57

Twenty Years Ago—1939

Rainfall on Mt. Waialeale on Kauai for the past 12 months totaled 601 inches, an average of more than an inch and a half a day, according to a geological survey. This is a record for Waialeale, one of the world's wettest spots.

Otto Degener's Fiji

Botanists as well as those who didn't know a casuarina from a cassowary will enjoy and find profitable Otto Degener's latest book, "Naturalist's South Pacific Expedition: Fiji," published by himself, printed by the Paradise of the Pacific. Degener, whose volumes on Hawaiian flora have attracted wide attention, has written an account of his eight months sojourn as a member of the "Second Cheng Ho" expedition, headed by Mrs. Anne Archbold, in 1940.

The volume is an account of botanizing, of social studies, of cannibalism, fire-walking, religion, native treatments for leprosy, Fiji dress, tattooing and pet doodlebugs. Degener deals with filariasis, wasteful lumbering, the making of mats, miscegenation, the burial alive of Fijian chiefs of olden days. He discourses on the copra industry, witchcraft, native chewing stimulants, jungle intoxicants. He mixes a technical discussion of a newly discovered fern with a biting commentary on the status of native population under English rule.

A recurrent theme is his recurrent description of the Fijian as "only a partially emancipated peon hedged in by strict laws not applicable to white residents" and he contrasts the status of Fiji Islanders unfavorably with the emancipated Hawaiian race. Some of the "more disturbing passages," he said, in a foreword, were deleted at the suggestion of friends.

A high light of the volume is an account of a stinking and poisonous plant called the "ndanga" with which Fijians once tried to beat their wives, when the wives had been unfaithful. The book is a valuable contribution to the literature of the Pacific, although Pacific Islands Monthly will not accord it a favorable review because of the strong anti-colonial slant.

A Roaring Show

I really worked up a sweat listening to the hot music of Ken Alford and his Dixiecats at the Cricket Room.

They will perform for at least the next three Tuesday nights at the Beachwalk establishment.

The roar of the Roaring Twenties mob makes the cry of M.G.M.'s Leo the Lion sound like a mouse in comparison.

Owner Joanne Sartain ran out of beer at 10:10 p.m. but promises she'll have enough for next w

Hon Star Bull

The Dixiecats featured Banjo Bill Coker. Banjo Bill came to the Islands 23 years ago in an army band and stayed on, marrying an Island girl who worked at the Bishop Museum. He recalls he got promoted from private to corporal because a square colonel found out he could play hill-billy music for a square dance. 5/13/61

Bill now plays a wickedly wild banjo.

Banjo Bill

"Annie Ho"

A Haleiwa grower has found he can raise strawberries successfully in Hawaii — but selling them successfully may be something else. Ha. Star, Bull.

Eiko Nakama, a truck farmer, says he got interested in strawberries as a new agricultural crop for Hawaii two years ago.

At that time a man from Driscoll Strawberries in Watsonville, California, offered him experimental plants.

Nakama tested a dozen varieties before he chose the one that developed the best berries in Hawaii's climate.

8 ACRES

He had been raising only broccoli, green peppers and papaya on the eight acres of land he leases.

He put two acres into strawberries — some 50,000 plants.

This required a plastic canopy to be spread over the plants to hold the gas he applied to kill weeds and disease.

It also required frequent sprayings with pesticides and weed killers because a strawberry is a delicate fruit.

He thought he would be in full production last January but heavy rains ruined his plans—the rain rotted the berries.

However, several weeks ago the plants, which bear about every two months, were again loaded with berries.

Nakama hired 10 pickers to help his three hired hands and began harvesting, averaging 1,000 flats a week.

The strawberries were distributed by Kailua Products on River Street.

Nakama had visions of making strawberries his main crop.

But he says he needs to get a wholesale price of $8 a flat to make money.

He finds that strawberries flown in from California are being retailed at $4.69 a flat.

If that keeps up, he says, his Hawaii strawberry business will be short-lived.

Asthma-Hay Fever Here Double Mainland Rate

Ha. Star-Bull. 1/27/63

The rate of asthma-hay fever on Oahu is nearly double that on the Mainland, but nobody seems to know why.

According to the State Health Department, the usual causes of asthma and hay fever are practically non - existent in the Islands. There are no sudden or extreme changes in temperature and barometric pressure here.

* * *

NOR IS Hawaii plagued by ragweed and other grass pollen which make so many persons sneeze on the Mainland.

Hawaii's outdoor living cuts down the amount of house dust which might irritate nasal passages.

So why hasn't anyone discovered the casues?

It wasn't until the results of the 1958-59 Hawaii Health Survey were tallied that asthma-hay fever stood out as the No. 1 chronic condition in the Islands.

* * *

SINCE THEN, a committee has been delving into the matter. But studies take time and money. The committee at present is completing a detailed request which it hopes will bring forth national funds to carry out the project.

Dr. William A. Meyers, chairman of the committee, said membership included physicians with varied specialties, a botanist and a weatherman. They are looking into the causes from many angles.

The State Health Department estimated that 35,800 persons suffered from asthma-hay fever in the Islands during the year ending September, 1959. Persons under 25 accounted for 65 per cent of all cases.

* * *

IN A PAPER published in October, 1961, in the "Annals of Allergy," Myers pointed out that two and three are the ages at which asthma is likely to begin. He explained that if a child has not had an asthmatic attack before the age of eight, he probably never will.

Some persons outgrow the disease, Myers said. In others it may disappear during the teens, but return when they are adults. For still others, it continues all of their lives.

* * *

MYERS ADDED that "90 per cent of the adults who have asthma, had it when they were children."

The State Health Department has estimated that on any given day on Oahu "903 persons must restrict their activities because of asthma-hay fever and 376 persons are confined to bed."

sieht es die issenschaft:

Ragweed Held Spreading Over Isle

I was interested in the article about "Asthma-Hay Fever Here Double Mainland Rate" and that "nobody seems to know why." It further stated the common error that Hawaii is not plagued by ragweed and other grass pollen which make so many persons sneeze on the Mainland."

* * *

IT IS EASY to explain why asthma-hay fever here is double that of the Mainland: Hawaii Nei is a land of ferns and flowers, and these plants reproduce 12 months of the year with their spores and pollen filling the air. On the Mainland, such spores and pollen appear only seasonally, none being liberated in frigid weather and very little during otherwise unfavorable seasons. Not much further study is needed to tell what the hay fever plants may be.

That is all pretty well documented and available for anyone who will spend a little time going through local floras to separate the sheep (insect-pollinated plants) from the goats (wind-pollinated ones). Furthermore, much local pioneer work was accomplished in the 1920s by Larsen and Weller on fungus spores and hay fever; and a few decades ago by the Abbott Laboratories on pollen and hay fever for the sake of prospective tourists.

Contrary to the article printed, the ragweed (Franseria strigulosa) covers many square miles between Schofield Barracks and the north shore of Oahu. Another introduced ragweed (Artemisia) is spreading along the highway between Kona and Kamuela, Hawaii, with no one apparently bothering to eradicate it before it takes over the drier parts of that island. Our commonest lawn is of Bermuda grass (manienie), long famed as a hay fever plant. Our waving palms are featherdusters for the scattering of pollen. Incidentally, I cut a royal palm down because a tenant living below it suffered serious attacks of asthma whenever it burst into flower!

DR. OTTO DEGENER
Collaborator in Hawaiian Botany
New York Botanical Garden

Strophe einer Amsel. Nach den melodischen Motiven am Anfang folgt der Abgesang; an ihm zeigt sich die Virtuosität des Sängers, der in einigen Hundertstel Sekunden unwahrscheinliche Tonhöhensprünge macht.

son why a water storage reservoir in the upper reaches of Waimea Canyon can not be a part of the proposed park.

"4—There will be many more jobs on Kauai through a substantial increase of tourist service facilities. Jobs such as tour drivers, waiters, concessionaires and construction workers.

"Kauai People in the future may look forward to their sons eventually becoming National Park rangers."

As the park would be used for more than just overnight stays, it will become a tourist destination equivalent to dozens of new industries, he said.

EXAMPLE CITED

As an example, he cited the following:

"For each two dozen people per day visiting the park on a yearly basis, the sum of their revenue is equal to a new industry with a $100,000 per annum payroll."

As for there being a "commercial aspect" to the park, Wenkam said:

"Any visitor to Haleakala and Volcanoes National Parks knows how well the Park Service has preserved the natural scenic beauty.

"One of the prime reasons for establishment of a Kauai National Park is to preserve the world-famous scenery of the Garden Island.

"The Park Service can be expected to proceed with great care in planning the park."

We can weigh the advantages and disadvantages of national park."

He said he wants to know if a national park would:

1—Attract more tourists to Kauai.

2—Result in substantial Federal spending to better develop the area.

3—Create more employment.

4—Eliminate or permit hunting and fishing.

5—Hinder the Kokee hydro-electric and irrigation projects.

Aki said he is not taking any stand on the matter until he sees the complete study.

Paul Dolan, Chamber of Commerce president, said, he is undecided on the Park question and wants to see the report before making up his mind.

He pointed out that under a national park, no hunting and fishing would be permitted.

It will also mean no homes in Kokee, too, he said.

There are more than 100 people with homes in the Kokee region.

There is strong opposition to Udall's proposal from local hunters.

A spokesman for the Kauai Hunters Game Promotional League said that the club is strongly against turning Kokee into a national park.

He fears that the best hunting grounds would be taken away.

Harold Birnbaum, a retired Mainland attorney, said he is against a national park.

"Every national park I have been familiar with on the Mainland has a commercial aspect to it," he said.

Star-Bulletin Bureau

WASHINGTON, Feb. 21 — If a national park is created on Kauai, the popular Garden Island pastime of plum picking would be permitted to continue within its boundaries.

This was reported yesterday by Representative Spark M. Matsunaga, Hawaii Democrat, following a conference with an official of the National Park Service who called in his office regarding the Kauai park study recommended by Interior Secretary Stewart L. Udall.

Matsunaga said they also discussed other phases of the scenic northwestern portion of Kauai, including whether lessee's of mountain cabins would be permitted to retain their holdings.

He said the park service official said the answer to such questions would no doubt hinge on the language of the bill passed by the Congress.

WASHINGTON, Feb. 19— Secretary of the Interior Stewart L. Udall has written letters to Governor John A. Burns and Hawaii's four-man Congressional delegation outlining a study to determine the possibility of establishing a national park on Kauai.

Following is Secretary Udall's letter: 2/21/63

"For many years a number of leading citizens of Hawaii and conservationists elsewhere have discussed the possibility of establishing a portion of the Waimea Canyon and Na Pali coastal area of the Island of Kauai as a unit of the National Park System.

"This Department's National Park Service is about to begin a study of the feasibility of including such an area in the Nation's parks and because of your familiarity with the various proposals, and your personal interest in Hawaii's great park values, we are writing to solicit your views and assistance for the survey.

"Numerous viewpoints have been expressed, and this department intends to explore all of them. All of the affected interests will be examined, and since problems are bound to arise, we are looking forward to the development of suggested solutions.

"We will need the best informed advice on the economic potential which such a national park area could be expected to generate. All the land usage factors will be considered, whether for State park purposes, mountain cabins, hunting or other recreational aspects, grazing, agricultural, water development, Pacific Missile Range space activities, or for such other possible uses as the study may reveal.

"Local interests and needs will be looked into thoroughly as well as nationally important recreational, scenic and scientific values.

"We feel sure you will wish to suggest the names of persons whose opinions would be valuable.

"Among the prominent Hawaii residents who have already volunteered to contribute their intimate knowledge are Manuel R. Aguiar, Jr., Raymond X. Aki, Frank C. Churchill, Joel B. Cox, Charles J. Fern, Lindsay A. Faye, Hans W. Hansen, Norito Kawakami, Joe T. Orrick and Selwyn A. Robinson from the Island of Kauai; and from the Island of Oahu: Riley H. Allen, Donald W. Bell, Harry M. Blickhahn, Roland W. Force, Chinn Ho, Judge Martin Pence, Dr. Alexander Spoehr, Thurston Twigg-Smith and William V. Ward.

"The foregoing roster is, of course, only a beginning of the list of people who will be asked to give us the benefit of their ideas. We want the widest possible public participation.

"The Park Service has retained the firm of Harland Bartholomew and Associates, and the firm has assigned its Honolulu office to co-ordinate material collected during the study.

"Kauai's physical characteristics are no doubt familiar to the information sources you will wish to nominate; the island's northwestern portion contains features not yet preserved in the National Park System—the spectacular cliffs rising from the sea to 2,700 feet, cut by deep gulches and scenic valleys, the wind-blown beaches of white sand still unspoiled by overdevelopment, the Alakai Swamp of 30 square miles, plunging 3,000 feet from its highest elevation into the Wainiha Gorge.

"Now we need informed opinion on what preservation of these lands would mean to the people of the island, the State and the Nation, and we are seeking such advice from all knowledgeable persons. Your co-operation will be very helpful."

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Otto Degener Is Recognized As Great Botanist

Otto Degener, botanist of world wide renown, resident of Hawaii, on Sunday was awarded an honorary degree of doctor of science by his alma mater, the University of Massachusetts.

Mr. Degener came to Hawaii in 1922 and earned his master of science degree at the University of Hawaii where he later became an instructor. He left the university to become naturalist for the Hawaii National Park.

Since 1935 he has been collaborator in Hawaiian botany for New York Botanical Gardens.

Mr. Degener has written several books, "Plants of Hawaii National Park," 1930; Flora Hawaiiensis, or New Illustrated Flora of the Hawaiian Islands" and "Naturalist's South Pacific Expedition: Fiji, 1940" are the best-known.

DEGENERIA FAMILY

Mr. Degener is as widely known as an explorer as he is as a naturalist. During his travels he has discovered several plants which are named in his honor and hundreds of plants new to science.

His outstanding discovery is a unique "Tree Buttercup," native to the Fiji Islands. It is so different from anything known before that it now constitutes a plant family of its own, The Degeneria Family.

At the 34th International Flower Show held at Grand Central Palace in [illegible] Degener was selected as the Outstanding Botanist or Naturalist of the Pacific [illegible]

SOCIETY MEETING

DATE: Monday, April 1, 1963, 7:30 p.m.

PLACE: Agee Hall, Experiment Station of the Hawaiian Sugar Planters' Association, 1527 Keeaumoku Street, Honolulu.

SUBJECT: "Soil infertility" (illustrated).

SPEAKER: Dr. Harry F. Clements, Senior Plant Physiologist, Hawaii Agricultural Experiment Station, University of Hawaii, Honolulu.

DUES REMINDER

Members who have not paid their 1963 dues yet are reminded that they should be remitted to the Treasurer as soon as possible. The various expenses of the Society can be met only if the funds are available. The annual dues of two dollars ($2.00), which includes receipt of the Newsletter, should be sent to William M. Bush, Castle & Cooke, Inc., P. O. Box 2990, Honolulu 2, Hawaii. Checks should be made to the Hawaiian Botanical Society.

BOTANICAL NOTES

OTTO DEGENER HONORED: The Linné Medal was awarded to Dr. Otto Degener, Collaborator in Hawaiian Botany, New York Botanical Garden, by the Royal Swedish Academy of Science. The award was made on May 23, 1962, but receipt of the medal was not until last month. It was made in recognition of the work and donations which Degener produced and initiated in favor of the Naturhistoriska Riksmuseet, and the important services which he rendered to the Museum's Department of Botany. Degener resides at Mokuleia Beach, Waialua, Hawaii. (AKC)

HAWAIIAN ACADEMY OF SCIENCE: The Academy meets on Thursday, April 25, and Friday, April 26, at 7:30 p.m. in Agee Hall, H.S.P.A. Experiment Station. The annual banquet will be held on Saturday, April 27, at the Empire Room of the Hawaiian Village Hotel. Further information may be obtained from the Secretary, Dr. Robert Fox, University of Hawaii.

The Hawaiian Junior Academy of Science will hold its second annual meeting on Friday, April 26, at 4:00 p.m. in Agee Hall. High school students will present papers of research results. (AKC)

H.S.P.A.: Mr. Tao-Tze of the Taiwan Sugar Research Station was a recent visitor at the Experiment Station, HSPA. Following a one and one-half year fellowship in the Department of Soils and Nutrition at Berkeley, Mr. Yang spent a week with the staff of the Department of Physiology and Biochemistry. (LGN)

HAWAIIAN BOTANICAL SOCIETY
c/o Department of Botany, University of Hawaii, Honolulu 14, Hawaii

The HAWAIIAN BOTANICAL SOCIETY was founded in 1924 to "advance the science of Botany in all its applications, encourage research in Botany in all its phases," and "promote the welfare of its members and to develop the spirit of good fellowship and cooperation among them." "Any person interested in the plant life of the Hawaiian Islands is eligible for membership in this Society."

The Hawaiian Botanical Society Newsletter is published monthly, except during the summer months of July, August, and September. It is distributed to all Society members and other interested individuals and institutions, with the purpose of informing them about botanical news and progress in Hawaii and the Pacific. News contributions and articles are welcomed. The deadline for submission of news items is the 20th of each month prior to publication.

Duplicated at the University of Hawaii and Bernice P. Bishop Museum.

Membership Dues are $2.00 per calendar year and include receipt of the Newsletter.

4—Sunday Tribune-Herald, May 12, 1963

HAWA

NEW BOOKS IN HAWAII

Flora Of Hawaii

FLORA HAWAIIENSIS, BOOK 6; by Doctors Otto and Isa Degener. Published by the authors, Mokulela Beach, Waialua, Oahu, Hawaii, at $10.

Reviewed by L. W. Bryan, former Deputy State Forester

This is the sixth book of this valuable flora which includes not only native but introduced plants found in Hawaii. Doctor Otto Degener began his botanical work in Hawaii in 1922 and has spent the past 42 years in botanizing here in Hawaii and other parts of the tropical world.

He has authored a number of books included among which are: 'Ferns and Flowering Plants of the Hawaii National Park (where he was park naturalist in 1929), published in 1930; Last Cruise of the Cheng-Ho, 1943; Naturalist's South Pacific Expedition, 1945, etc.

During 1925-27 he was botanist at the University of Hawaii.

He was joined in this improtant work by his wife, Dr. Isa Degener, after their marriage some few years ago. Doctor Isa Degener is a botanist in her own right and this wife-husband combination makes an excellent team.

Book 6 contains more than 200 pages and accurately describes more than 170 different plants representing 79 different families. Like former volumes this one is printed on heavy, glossy, durable paper which will last a long time. Each plant is well illustrated on one side of the sheet and the description is shown on the other. It is in loose leaf form so that additions may be made to each family as new sheets are published.

Of interest and indicating a significant honor is a reproduction on the Front Piece of the LINNE MEDAL awarded to Doctor Otto Degener by the Swedish Academy of Science in 1962 for his outstanding contributions in the field of botany.

CLASS

JOSEPH F. ROCK MEMORIAL LIBRARY (continued from page 108)

A recent gift to the new library was the rare second edition of Carlos Linnaeus' Genera Plantarum (1743). The valuable two volume work was given by Paul C. Hutchison, Senior Botanist, University of California Botanical Gardens. Other gifts included an extensive collection of old botanical prints from an anonymous donor, and sets of journals and books. (Charles Middleton)

HAWAIIAN BOTANICAL GARDENS FOUNDATION, INC.

Senate Bill 1991 was introduced in the Senate of the United States (88th Congress, 1st Session) on August 6 by Senators Daniel K. Inouye and Hiram L. Fong of Hawaii. It was read twice and referred to the Committee on Judiciary.

The bill provides a charter by Act of Congress the National Tropical Botanical Garden. It names the incorporators of the corporation (National Tropical Botanical Garden) and initial members of the Board of Trustees, who are: Henry Francis duPont, Winterthur, Delaware; Deane Waldo Malott, Ithaca, N. Y.; Horace Marden Albright, Los Angeles, Calif.; Robert Allerton, Lawai, Kauai, Hawaii; and Paul Bigelow Sears, New Haven, Conn.

The purposes and objects of the Garden are to establish an educational and scientific center in the form of a tropical botanical garden for research in basic and applied tropical botany and to collect and cultivate tropical flora and preserve those species threatened with extinction.

The coporation, with a limit of 15 trustees, shall initially have its principal office in the District of Columbia and later at such place determined by the board of trustees. (C. E. Hartt)

A TV program in July showed pictures of proposed sites at Kahana, Waiahole, and upper Manoa. F. Teho monitored the program, and the panel members consisted of S. Goto, Mrs. A. Lester Marks, W. W. G. Moir, Mrs. Dudley Pratt, and M. M. Ross. Details of the proposed National Tropical Botanical Garden were discussed by the panel. (M. M. Ross)

Dr. Degener Of Mokuleia Earns Swedish Academy Science Meda

Hawaii Military Press 4/17/63

Dr. Otto Degener of Mokuleia beach, Waialua, has just received the Linne medal from the Royal Swedish Academy of Science for outstanding work and contributions to botany. A Hawaiian botany collaborator for the New York botanical garden, Dr. Degener was awarded the medal in recognition of meritorious service to the Naturhisoriska Riksmuseet department of botany.

man has adapted to the island environment and what he is doing to it. A demographer shows the population instabilities that modern conditions have generated in this microcosm, and a geographer provides a brilliant summation and prospect. The weight of these papers is lightened by the recorded discussion introduced by people as eminent as the authors themselves. The result is a picture of islands and their inhabitants, abstract, to be sure, but calculated to be a foundation for all future work aimed toward generalization about islands."

FLORA HAWAIIENSIS - BOOK SIX

(A Review)

Announcement that book six of Otto and Isa Degener's loose-leaf "Flora Hawaiiensis" has appeared should suffice for most members of the Hawaiian Botanical Society. They know its value and will set about acquiring a copy. However, for those unacquainted with this important series, a word of introduction might be in order.

Dr. Otto Degener produced the first volume of this "New Illustrated Flora of the Hawaiian Islands" in 1933. Some of the loose-leaf pages appeared in 1932. The plan was to present a scientific description and notes on one side of a page and good illustrations of the plant on the other, and to punch the pages to fit a binder. The pages are not numbered, but each has a "family number" and the name of the genus and species in the corner to facilitate arranging them. Degener set out to present 100 species per volume, but in his generosity, the first five volumes contain more than 575 species. The present volume seems to be a double one, with 187 leaves (374 pages) of descriptions and illustrations. The balance of its 534 pages contain discussion of families and genera, keys, and two special articles, one a tribute to the late Franz Elfried Wimmer (1881-1961), authority on lobelias; the other an interesting anecdote about Henry Brougham Guppy in Hawaii.

Dates of publication (assembly) of the first four volumes were 1933, 1935, 1938 and 1940. Then the war brought a pause. On April 1, 1946, a tidal wave hit the Degener house at Mokuleia, Oahu, and much of the stock of volumes 1 to 4 was destroyed by sea water. Undaunted, Degener had them reprinted by offset, and sold them in one volume of 1192 pages for $6.50, a real bargain. Book 5 appeared in 1957 ($5.00), and now Book 6, with 534 pages will probably sell in book stores for around $10.00.

This project has been so highly regarded by scientists that since 1956 it has received grants from the National Science Foundation. In 1962, Dr. Degener was awarded the Linne medal by the Royal Swedish Academy of Science.

Its value to the student of Hawaiian botany is also great. The botanist, who can recognize a species from its technical description - no simple task, can use one side of the page. The rest of us can make good use of the other, for the illustrations are well drawn and clearly present distinguishing characters, including details of fruit and flower. Although all six volumes together describe only about one-fifth, or less, of the species of ferns and flowering plants growing wild or established in Hawaii, those which have appeared to date represent so many plant families that one can get a fair idea of the flora. The Degeners are performing a fine service to botanical knowledge by this work. (E. H. Bryan, Jr.)

RECENT PUBLICATIONS

BELL, R. A. & W. E. HARVEY. (Mar.) 1963. Wax from the heartwood of Phyllocladus trichomanoides. N. Z. Jour. Sci. 6(1): 64-65.

CAMPBELL, ELLA O. (Mar.) 1963. New Zealand's largest liverwort. Tuatara 11(1): 16-19, pl. 1, fig. 1.

DANSEREAU, PIERRE. 1962. New Zealand revisted. Gard. Jour. 12(1): 12-16; (2): 55-58; (3): 108-113; (4): 144-147; (5): 185-189; (6): 217-219, 227, 49 figs.

Linnéträdgårdens blomsterprakt beundras av hawaiibotanikern dr Otto Degener (t. h.) och prof. Olof Selling, Stockholm.

"Upsala kan känna stolthet över sina Linnéminnen"

Jag beundrar verkligen initiativet till Linnémuseet och till Linnés Hammarby och det personliga sätt på vilket samlingarna ordnats, miljön rekonstruerats och dessa ovärderliga ting förvaltats under dr Ugglas ledning. Upsala kan med rätta känna stolthet över sina Linnéminnen, som utan överdrift är något av ett vallfartsmål för botaniker och zoologer världen runt, säger vid ett samtal med UNT dr Otto Degener. Han vet vad han talar om eftersom han kommit till Sverige och Upsala främst för att personligen få uppleva just dessa minnen. Linnés metoder följs även på andra sidan jordklotet, vilket väl inte är obekant, fortsätter han med ett småleende, och upsalabesöket har för mig blivit en fascinerande kontakt med en värld som jag förut kände — men bara genom litteraturen.

Något av en blomsterkonung är f. ö. även dr Degener. Under de 30 år han vistats på Hawaii — som medarbetare i Newyorks botaniska trädgårds stab där — har han samlat inte mindre än en kvarts miljon söderhavsväxter och är den ene av de två nu levande botaniker som fått en ny växtfamilj uppkallad efter sig. Sina många rön och erfarenheter har han samlat i en stor hawaiiansk flora, varav fem band hunnit utkomma, och vid återkomsten till Honolulu skall han överta ett fartyg med vilket han ämnar ge sig ut på nya forskningsresor.

Mina kontakter i Sverige inskränker sig inte bara till Linné, berättar dr Degener, jag har också en mångårig vän i stockholmsprofessorn Olof Selling, som har varit min ciceron både under en lappländsk resa à la Linné och vid upsalabesöket. Vi träffades 1938, då prof. Selling vistades på Hawaii för att genom den svenska pollenanalytiska metoden lägga grunden för vegetationshistorien där. Sedan jag 1940—41 vid en expedition till Fidji-öarna hit-

(Forts. å 7:e sid.)

Hardy and versatile Mondo grass is used to good advantage as a slope ground cover at the Kaneohe home of J. Scott B. Pratt.

Ralph S. Hosmer, First TH Forester, Dies In New York

The "father of forestry in Hawaii" — Ralph S. Hosmer, planner of the Haleakala National Park grove of pines, cedars and eucalyptus—died in his home in Ithaca, New York, on July 19.

Mr. Hosmer was the Territory of Hawaii's first forester, serving from 1904 to 1914, when he left the Islands to accept the post of dean of the Cornell University school of forestry.

He retired in 1942 and received, in 1950, the Society of American Foresters' Sir William Schlich Medal for "eminent service to forestry." He was credited with initiating the forest reserve system in Hawaii.

Mr. Hosmer graduated from Harvard University in 1898 and organized the Harvard Club of Hawaii. He was club secretary from 1907 to 1914.

In August, 1954, the Hui Ahinahina (Maui Silversword Society) proposed, to the National Park Service, the designation of the Haleakala National Park picnic area as Hosmer Grove. The NPS accepted the recommendation, Director Conrad L. Wirth's letter to Hui President Ray M. Allen in December noting, in part:

"The grove is now being opened for recreational use by the people and it is both fitting and proper that recognition be given to the man who so thoughtfully planned it nearly 50 years ago."

Hosmer Grove — at 7,000 feet elevation—was one of four experimental plantings made on Haleakala between 6,500 to 9,000 feet.

Purpose of the plantings was "to introduce into forest flora of the Territory of Hawaii valuable timber trees from the temperate zone with the idea of ultimately turning to economic account, through timber production, the upper slopes of the higher mountains of the Territory of Hawaii."

Haleakala National Park maintains, at Hosmer Grove, camping and picnicking facilities. The grove also has a half-mile long "nature trail" through native and introduced trees and shrubs, all labeled with names and origin.

One of the best ground covers for areas unsuited to grass and other plants is called Mondo grass here. It is really a fan grow in hot, dry or wet locations. It will thrive in full or broken shade and open sun. It is tolerant to many soil conditions and once established will grow in most heavy or loose soils.

• • •

NATIVE TO eastern Asia, Mondo produces erect clusters of long, narrow, dark - green leaves without petioles. It multiplies and spreads by creeping underground stems.

Known also as Lily Turf, Mondo is an excellent substitute for grass in lawns and areas that receive only minimum maintenance. It is good for rough, uneven ground, for rock gardens or border plants, and excellent for sidehills and sloping ground.

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MONDO IS easily and most commonly propagated by divisions from old clumps. Small clumps containing five shoots, may be spaced about four inches or more apart. Plant them with roots imbedded at leaśt an inch.

The area should be watered immediately after planting. The plants then will remain green and start new growth within two weeks.

• • •

ONCE ESTABLISHED, Mondo requires little maintenance and care.

turf - forming, grass-leaved lily (Ophiogon japonicus).

In the sand grows a small akoko (Chamaesyce degeneri) with jointed stems, milky sap, and rounded leaves on injury turning red. A relative (C. celastroides var. kaenana), a coarse shrub, grows among the sun-baked rocks, flowering before its pinau- or dragonfly-shaped leaf-pairs develop. This relative of the poinsettia constituted a potential rubber supply during war years. Within a stone's throw, grows the mao (Gossypium tomentosum) with a short, snuff-colored staple. This endemic cotton is worthless commercially but as the plant is immune to a fungus disease attacking the cotton of commerce, it has been used in breeding experiments in Trinidad. A relative of the cotton, with similar, but smaller flowers, grows everywhere. It is the familiar ilima (Sida cordifolia) valued for leis. Less abundant is the velvety shrub uhaloa (Waltheria americana) so valuable in native medicine.

In the shade of the sandalwood grows the hiliee (Plumbago zeylanica), a shrub with sticky, white flowers, related to the blue plumbago of our gardens. It was the most powerful drug plant of the Hawaiians; and its acrid, poisonous juice was used for black tattooing. Climbing over rocks is the rare Hawaiian moonflower (Calonyction tuboides), while its day-flowering relative is the native morning-glory or koali-awahia (Ipomoea indica) with blue flowers fading pink. It is justly famous as a medicine, especially as a poultice for broken bones. A more distant but commoner relative about Kaena, the creeping pauohiiaka (Jacquemontia sandwicensis) grows almost everywhere except in the sand. According to mythology it protected Goddess Pele's baby sister Hiiaka from sunburn when she was left lying too long on the beach. Just as an avocado relative went beserk so did a morning-glory, eventually developing into an orange-yellow, rootless, leafless parasite. This is the kaunaoa or pololo, the Hawaiian dodder (Cuscuta sandwichiana), which sucks the sap with its thread-like stems from the plants growing mauka of the shore.

After exploitation of the sandalwood by the Hawaiian alii who forgot the conservation initiated by Kamehameha, not with sandalwood but with birds, a vain attempt was made to renew the industry by selling the fragrant bastard sandalwood or naio (Myoporum sandwicense). Such plants, in a shrubby form, grow east of Kaena, each year a little more battered by trampling cattle. In among the naio, grow a few dark green, glossy, columnar trees, the walahee (Canthium odoratum), bearing fragrant, white flowers. Its hard wood was used for implements and its leaves as a black dye.

Almost everywhere is the naupaka kai (Scaevola sericea var. fauriei), its "half-flower" explained by Hawaiians as the result of a lovers' quarrel. But where is its trailing relative (S. coriacea), discovered at Kaena by Hillebrand before 1871 and not since?

The cliffs harbor the Hawaiian sagebrush (Artemisia australis), for which we know no Hawaiian name; while below them where there is seepage, quickly grows a delicate, erect, annual nehe (Lipochaeta remyi). A shrubby, perennial relative with sandpapery leaves and larger yellow flower-heads (L. lobata var. denticulata) sprawls over the loose rocks inaccessible to cattle. Along the shore, on the other hand, is the fleshy, mat-forming nehe (L. integrifolia var. megacephala) which, in this meltingpot of ours, hybridizes with the above to form a plant superior to either parent stock.

The SUMMER FORAY AREA at KAENA POINT

The photograph facing this page is the area for the dry trip for this summer. The photograph was taken from an altitude of 13,500 feet at about 15:00 hours on September 6, 1951, and thus has suffered from extreme enlargement. The dark patches inside the black rock border indicating the supratidal zone are vegetated areas on the buff colored sand, which shows white in the central area of the point. The straight lines on the sand were the commonly driven routes at that time. The regular dark curving line across the center of the point is the 3-o'clock shadow on the abandoned railroad grade. Just to the right of it is the "Highway". The high peak mentioned in the Degeners' narrative seems to be the white patch about 5/8 inch from the right border and a little above the center of the page.

(For further information on the 'Summer Foray' see page 92)

Suppl. to N.Y., Smiths., AA, Auckland, Berlin, Brisbane, Brussels, Edinburgh, Kew, Lund, Leiden, Mich, Minn, Montreal, Munich, Trinl, Sheff, Arrigoni, R. Tabata, Rapoport, P 504.p

Volume II
Number 6
June 1963

K A E N A P O I N T , O A H U

Drs. Otto & Isa Degener

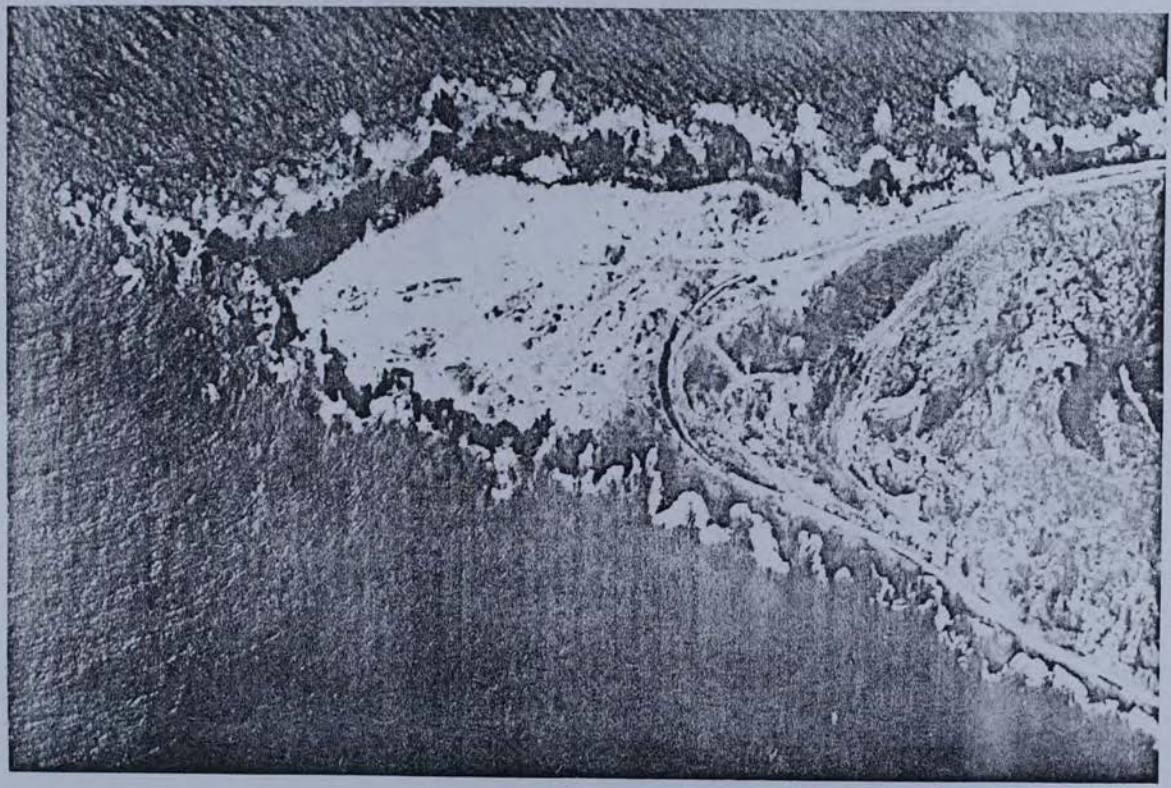
Kaena Point, even from the coastal plain, furnishes a magnificent view of the Waianae and northwestern Oahu coastlines; while the 600-foot summit, reached by an overgrown trail formerly provided with wooden steps bordered by wild tomato plants, provides the opportunity for searching for whales aspouting and for the hawk-like iwa which glides with hardly a movement of its zigzag wings.

The Kaena area is outstanding at least anthropologically and botanically. It is the site, now topped by the lighthouse, of an old heiau perhaps dedicated to the shark god. To the south is a cave, now partly filled by the old railroad bed, where departed spirits were wont to congregate. To the east is the spot where the demigod Maui, with his magic fishhook Mana-i'i-a-kalani, pulled the rock Pohaku-kauai, shaped like the island of that name, from the deep. Indeed, a walk along the coast shows the resulting mythical scratch of the rock in the lava, a scar interpreted by the haole geologist as an eroded dike.

Botanically, the area is a refuge for rare or interesting native and even endemic plants: On the higher slopes grows the perennial bunchgrass emoloa (Eragrostis variabilis); while after rains, on the flats below, springs up the velvet kakonakona (Panicum torridum) to flower and mature its grain before dry weather ends its telescoped life span. Along the dunes creeps the shrubby iliahi (Santalum ellipticum); while farther inland in the talus, this sandalwood becomes a small tree. In rock crevices along the hot, western shore where storm waves may reach them, thrives the ihi (Portulaca lutea), closely related to our smaller-flowered common purslane introduced as a vegetable by Don Marin before 1819 and now a troublesome weed. Farther mauka may be seen a relative of the avocado that has resorted to thievery and in this debased condition is a rootless, leafless parasite covering bushes with a wiry, yellowish-green net. This is the kaunoa pehu (Cassytha filiformis).

Makai of the old railroad cut in a pile of lava rock grows a venerable puapilo (Capparis sandwichiana) known to me since my first visit to the area in 1922 by railroad. This relative of the caper of commerce, like the nightblooming cereus, opens its large white flowers at night for sphinx moths. By morning they have wilted to pink.

In the Arctic, real trees grow close to the ground for protection. At Kaena, to escape the continuous drying trades, the ohai (Sesbania tomentosa) bears a trunk only about 6 inches high while its branches extend three to five feet in all directions of the compass. To reduce evaporation, the leaves are silky. The pea-like flowers, yellow and salmon, are very pretty but not as large as those of the cultivated sesban found so often in Filipino gardens. The Kaena dunes area is the last stronghold for this vanishing species.



KAENA POINT

0 50 100 150 200 250 300 350 400 450 500

APPROXIMATE SCALE —— METERS

NORTH

Q—Can I grow a pineapple at home? Believe it or not, I've asked many local people, and none of them seem to know.

A—You should have checked with the Pineapple Research Institute of Hawaii, which has a pamphlet available on the subject. In brief, it explains that you can grow pineapple at home, but the fruit may not be as big as that produced on our plantations. Start by removing the crown from the pineapple by twisting or cutting. Make sure to remove any adhering pineapple flesh. Cut the bottom of the crown, until you see root buds, but avoid cutting into young stem tissue. Strip off three or four base leaves and place the crown upside down in a dry shaded place for about a week before planting.

Then, prepare an eight-inch red clay pot for good drainage. Placing a broken piece of pot over the hole in the bottom will do the trick. Add about an inch of coarse gravel, then the soil. The soil should be of the light garden variety, mixed with up to 30 per cent organic matter. At the time of planting tamp the soil firmly around the base of the crown, but keep soil out of the central leaves. Fertilize at planting and every two or three months after that with household plant food. A crown takes from 24 to 26 months to produce a ripe fruit, and a home-grown plant may take even longer.

If the plant has not flowered by 24 months, it can be forced by placing a lump of calcium carbide in the center and pouring a quarter cup of water over it. After the fruit is picked, branches on the stem below the fruit (called slips) and shoots on the main stem can be removed and used for more plantings.

A new tree fern of the genus Sadleria or Hawaiian amaumau has been found on the Island of Hawaii by a group of botanists under the direction of Dr. Harold St. John, University of Hawaii professor of botany.

Several other kinds of amaumau have been known but they are low in stature, seldom more than waist high. The prize discovered by the university botanists is an amaumau with a single erect woody trunk, 21 feet in height and 16 inches in diameter breast high. This description of the fern meets every requirement of a definition of a tree. It allows botanists to think that one species of the genus Sadleria is really tree-like and gives Hawaii another tree fern.

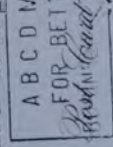
This amaumau was growing in the wet forests of South Kona beside a Hapuu fern and towering above it, being twice as high. Parts of the tree fern have been brought to Honolulu for identification and classification.

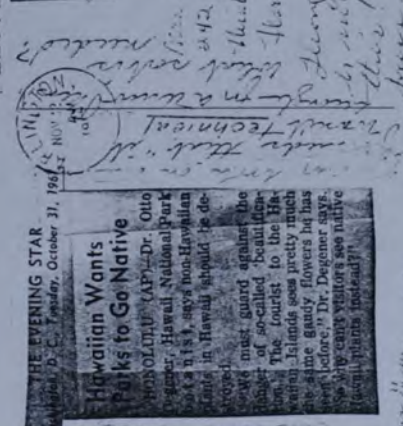
The discovery was made on a 17-day botanical expedition to the Big Island. The party worked from three bases: the YMCA camp at Kilauea, from which place exploration of the coastal region of Puna, the Hawaii national park and the Kau forest reserve was carried on; Camp Keauhou, from which the slopes of Hualalai, the Kohala mountains and the middle forest zones of North and South Kona were covered; and Camp Keanakolu, situated at 5,400 feet on the windward slopes of Mauna Kea. From this base trips were made to the wet forest of the exposed side of Mauna Kea.

The amaumau species was very valuable to the Hawaiians. The outer part of the trunk was squeezed and used as red dye for kapa. The soft bud scales were sent to California for use as stuffing in pillows and mattresses. The bark was used with the bark of mamaka or wauke in making kapa. The largest volcanic pit of Kilauea, Halemaumau, received its name from the presence of these ferns, the name meaning, house of the amaumau.

Hundreds of specimens of plants collected by the university party have been brought back for use of the botany classes, and, after classifications are made, the Bishop museum.

Members of the expedition were Dr. St. John, Mrs. St. John, Charles and Robert St. John, Carl Chandler, Dr. St. John's nephew, Robert Catto, Miss Peggy Longley, Paul Baldwin and Miss Hannah Akau who joined the party in Hilo.





By E. H. BRYAN JR.

FLORA HAWAIIENSIS (Book Six). Published by Otto and Isa Degener. Persons interested in Hawaiian plants will want to add this valuable volume to their collection. For those who do not know this series, a word of explanation is in order.

Dr. Otto Degener turned out the first volume of this "New Illustrated Flora of the Hawaiian Islands" in 1933. Actually the first loose-leaf pages were printed in 1932. One side of a page presents a scientific description and notes about a kind of plant found in these islands; on the other is reproduced excellent drawings of the plant. The combination is desirable.

It requires some little training or experience for a person to identify a plant by its scientific description; but any one should be able to recognize it from its picture.

The idea was to present about 100 species in each volume; the Degeners have done better than that. The first five volumes present descriptions and full page illustrations of 577 species.

Number 6 is a double volume with 187 species among its 534 pages, bringing the total to date to 764 species. In each volume, pages have been devoted to notes on genera and higher plant classification, keys to plant groups, and a few special articles.

Publication dates for the first four volumes were 1933, 1935, 1938 and 1940. Then came a pause because of the war. On April 1, 1946, a tidal wave hit the Degener home at Mokuleia, Oahu, and much of the stock of Volumes 1 to 4 was destroyed. Undaunted, Degener had them reprinted by offset and issued in one volume of 1,192 pages for $6.50, a real bargain. Volume 5 appeared in 1957 ($5), and now book 6.

This project has been so highly thought of by scientists that since 1956 it has received grants from the National Science Foundation. In 1962, Dr. Degener was given the Linne medal by the Royal Swedish Academy of Science.

Although the six volumes together describe less than one-fifth of the species of ferns and flowering plants found in the Hawaiian islands, many of the different groups are so well represented that the books could be of great service in helping a person get acquainted with the native and common introduced plants of these islands.

Otto Degener, collaborator in Hawaiian botany, New York Botanical Garden, has received the Linné medal from the Royal Swedish Academy of Science.

fessor Miller states that it is a poor source of all nutrients including calcium and phosphorus, although it contains a fair amount of iron.

They are only fair to poor sources of any of the vitamins. While not suitable for jelly or preserves, the writer has eaten chia pickle prepared with cloves like brandied peaches which proved a fine relish. Of course it may have been the brandy and cloves but methinks the fruit added its share.

The **Roseapple** (E. jambos) is likewise well known in Hawaii. The tree is ornamental and the flowers and fruits almost as attractive as the mountain apple. The fruit's aroma is strikingly similar to that of rose-water, hence its name. It may be used for making preserves as suggested for the ohia. It is not a fruit of which one would eat many out of hand. Perhaps one of its chief values is in its attractiveness in the landscape and for table decorations. The plant is easily propagated from seed. Like the mango, the seeds are polyembryonic, that is an individual seed may give rise to several plants, as many as 5 to 8. Only one or at most two of the seedlings should be retained to form a plant unit.

JAVA PLUM

The **Java plum** (E. jambolana) is known to everyone in Hawaii through its purplish-black small plum shaped fruits which litter the ground as the fruit ripens and stains everything that comes in contact with the dye like juice. Only when the fruit is thoroughly ripe is it at all palatable to most people. While at one time planted extensively as a road tree or for wind breaks and in forest plantings, it has now become a nuisance in some places and difficult to eradicate. It is quite possible that the skillful plant breeder might make a valuable tree out of the jambolana if given time and encouragement.

The **Grumichama** or Spanish cherry (E. dombeyi), [illegible] listed as E. brassiliensis [illegible] calx brasiliensis, while appearing last in this paper on myrtaceous fruits in which the eugenia are given an important part, is not by any means the least desirable. The tree is attractive in its shape and glossy deep green foliage. The fruit when fully ripe is soft, melting and delicate with a mild subacid flavor not unlike that of the Bigarreau cherry. The rapidity with which the fruits develop is unusual. Quite within a month or six weeks from the time of flowering they reach maturity and fall to the ground. Three varieties or types are recognized by horticulturists. One with dark red flesh, another vermillion and the third white. The fruit may be eaten out of hand or made into jams and preserves. The tree is readily propagated from seed which comes fairly true to type. Vegetative propagation is said to be extremely difficult.

Our next paper will treat of the litchi and its relatives.

Hon Star Bull 12/12/63

The patented (No. 1052) Ecke Flaming Sphere, one of the most beautiful of poinsettias, is now available in limited quantities from isle garden houses. Its sole Hawaii propagator is Kazuo Kamemoto of 3380 E. Manoa Rd. Flower clusters are globular and foliage is distinctly curved, as shown in the specimen displayed by Patricia Anne Teho.

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WINTER 1945

Jan. 13—Motion picture in color
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Jan. 20—FOOD PLANTS OF THE TROPICS Otto Degener
Jan. 27—FLORA OF THE ISLANDS OF THE PACIFIC Otto Degener
Feb. 3—VEGETATION OF INDIA AND BURMA Otto Degener
Feb. 10—FROM THE ALASKAN HIGHWAY TO THE ALEUTIANS Hugh M. Raup
Feb. 17—PLANT LIFE OF THE MEDITERRANEAN REGION Frank E. Egler
Feb. 24—STRATEGIC PLANTS AT THE NEW YORK BOTANICAL GARDEN E. E. Naylor

• • •

Mar. 3—Time-lapse motion pictures
NATURAL GROWTH OF PLANTS AND RESPONSES TO GROWTH SUBSTANCES
Produced by the Boyce Thompson Institute for Plant Research, with Dr. P. W. Zimmerman as Commentator

• • •

OTHER EVENTS AT THE NEW YORK BOTANICAL GARDEN

Conservatory displays, open daily, 10-4:30.
Evening courses for gardeners, commencing Jan. 4 and 9.
Broadcasts on alternate Fridays, 3:30 p.m., WNYC.

• • •

Send in your name to receive announcements.
The spring series of Saturday programs will concern THE GREAT GROUPS OF PLANTS—How They Live from Year to Year.

CUFODONTIS, G. Enumeratio plantarum Aethiopiae Spermatophyta (sequentia). - Bull. Jard. Bot. État Brux. 33, supplément: 829-876; 1963.

Les taxa énumérés se rattachent aux 2 familles suivantes: Labiatae et Solanaceae. L'auteur établit 13 combinaisons nouvelles et forme 1 nom nouveau, à savoir: Coleus comosus Hochst. ex Guerke var. Rondinella (Sprenger) Cuf. comb. nov. (C. spicatus Benth. var. Rondinella Sprenger), Plectranthus semayatensis Cuf. nom. nov. (C. Schimperi Vatke), Solenostemon latifolius (Hochst. ex Benth.) J.K. Morton var. elatior (Vatke) Cuf. comb. nov. (C. latifolius Hochst. ex Benth. var. elatior Vatke) et var. madiensis (Baker) Cuf. comb. nov. (C. latifolius var. madiensis Baker), Haumaniastrum abyssinicum (Hochst. ex Chiov.) Cuf. comb. nov. (Acrocephalus abyssinicus Hochst. ex Chiov.), H. cylindraceum (Oliv.) Cuf. comb. nov. (A. cylindraceus Oliv.), Beckium Ellenbeckii (Guerke) Cuf. comb. nov. (Ocimum Ellenbeckii Guerke), B. Neumannii (Guerke) Cuf. comb. nov. (O. Neumannii Guerke), B. obovatum (E. Mey.) N.E. Brown var. Knyanum (Vatke) Cuf. comb. nov. (O. Knyanum Vatke), B. Stirbeyi (Schwfth. et Volk.) Cuf. comb. nov. (O. Stirbeyi Schwfth. et Volk.), B. verticillifolium (Baker) Kew Staff ex Cuf. comb. nov. (O. verticillifolium Baker) (Labiatae), Capsicum annuum L. var. oblongoconicum (Dun. in DC.) Cuf. comb. nov. (C. conoide Mill. var. oblongoconicum Dun. in DC.), Solanum distichum Schumacker var. halophilum (Pax) Cuf. comb. nov. (S. halophilum Pax) et S. memphiticum Gmel. var. abyssinicum (Dun. in DC.) Cuf. comb. nov. (S. hirsutum Steud. ex Rich. var abyssinicum Dun. in DC.). A. Robyns, Louvain

DEGENER, O. and Isa. Flora Hawaiiensis or New Illustrated Flora of the Hawaiian Islands. Book 6. - 268 pp., profusely illustrated (black and white); 1957-1963. Ed. 1. $ 10.00 U.S. Available from Drs. Degener, Mokuleia Beach, Waialua, Oahu, Hawaii, U.S.A. (cf. EB-A. 3: 469-470; 1961)

As in the previous volumes, this attractive flora is published in the form of 3-hole looseleaf sheets, with sturdy binder in black and yellow uniform with the previous volumes. This volume is the sixth century (set of 100 spp.) and includes spp. from both the Pteridophyta and Spermatophyta. In addition to the treatment of families and spp. in systematic order (Engler and Prantl), there are two biographical notes, one on Henry Brougham Guppy (1854-1926), the other a necrology of F.E. Wimmer (see separate abstracts). - Included here are Dicranopteris linearis var. maxima (Christ) comb. nov. (Gleichenia linearis v. max., 1912); Doryopteris tryonii sp. nov. (similar to D. decora); Athyrium Fenzlianum (Luerss.) comb. nov. (Asplenium F., 1875); Asplenium gemmiferum var. enatum (Brack.) comb. nov. (A. enatum, 1854); Crinum asiaticum var. traubii var. nov. (more or less reddish purple); Grevillea Banksii forma albiflora comb. nov. (Stylurus B. fa. alb. Deg., 1932); Chenopodium pekeloi Degeners et Aellen sp. nov. (similar to C. oahuense; coll. Molokai); Bougainvillea glabra forma cypheri (L.H. Bailey) comb. nov. (B. glabra var. Cypheri, 1958); forma Sanderiana (L.H. Bailey) comb. nov. (var. S., 1958); forma variegata (L.H. Bailey) comb. nov. (B. g. var. v., 1958); Trianthema portulacastrum L. var. Hillebrandii var. nov.; Spergularia marina var. Simonii nom. nov. (Tissa m. sensu Forbes; and others); Argemone glauca (Prain) comb. nov. (A. alba var.

EXCERPTA BOTANICA
SECTIO A — BAND 7 1964

glauca, 1895); var. inermis var. nov.; Fragaria chiloensis var. sandwicensis var. nov.; Psilorhegma glauca (Lam.) comb. nov. (Cassia g., 1785); Canavalia hawaiiensis Degeners et Sauer sp. nov. (near C. galeata; coll. Hookena, Hawaii, also occurs on Maui and Lanai); C. lanaiensis (Rock) comb. nov. (C. sericea var. l., 1920); var. Munroi var. nov.; C. molokaiensis Degeners et Sauer sp. nov. (near C. sandwicensis; coll. on Molokai); C. sericea A. Gray var. cuspidata and var. yunckeri var. nov., also var. yunckeri forma grandifoliolata f. nov.; Fagara skottsbergii sp. nov. (F. Degener et Skottsb. nom. nudum) (close to F. kauaiensis; coll. on Oahu); Pelea elliptica f. coccinea (St. John et Hume) B. C. Stone comb. nov. (P. e. var. coccinea, 1944); P. nealae B.C. Stone sp. nov. (somewhat like P. puberula St. John; coll. on Kauai); Platydesma Remyi (Sherff Degeners, Sherff, et B.C. Stone comb. nov. (Claoxylon R., 1939); 39 comb. nov. for Chamaesyce (including C. Arnottiana (Endl.) and var. integrifolia (Hillebr.) Degeners et Croizat; C. Remyi var. Hanaleiensis, var. Kahiliana, var. leptopoda, var. Lydgatei, var. molesta, var. olokelensis, var. Kauaiensis, var. pteropoda, var. wahiawana, var. waimeana, and var. wilkesii (all Degeners); Hibiscus clayi sp. nov. (Kauai; cult. Oahu); H. rockii nom. nov. (H. Brackenridgei var. kauaiana Caum, 1930); H. waimeae Heller var. hannerae var. nov.; Heterocentron subtriplinervium forma roseum (Br. et Bouché) Degeners et Greenwell comb. nov. (H. roseum, 1852); Tetraplasandra sherffii sp. nov. (member of Sect. Neotetraplasandra Sherff; coll. Kauai); Peucedanum sandwicense var. hiroei nom. nov. (P. S. var. ß Hillebr., 1888); Rapanea sandwicensis var. mauiensis (Lévl.) comb. nov. (Myrsine s. var. m., 1911); Nestegis sandwicensis (A. Gray) Degeners et L. Johnson comb. nov. (Gymnelaea s., 1957); 10 other comb. nov. in Nestegis; Lindernia crustacea var. Smithii Degeners et Ruhle var. nov.; Barleria cristata forma albiflora f. nov.; Hedyotis acuminata var. alicarpa (Fosb.) comb. nov. (H. ac. forma a., 1943); the following are comb. nov. based on var. of the same name by Fosberg: H. centranthoides var. accrescens, var. kohala, var. laevis, var. laevis forma mauiensis and forma meeboldii, var. vestita, var. vest. forma hirta, var. yunckeri and its forma kamokuensis; Galeatella gaudichaudii (A. DC.) comb. nov. (Lobelia G., 1838) and var. koolauensis (Hosaka et Fosb.) comb. nov. (Lobelia G. var. K., 1938); G. gloria-montis (Rock) comb. nov. (Lobelia g., 1919) and its forma sanguinea (St. John et Hosaka) comb. nov. (L. Gaudichaudii var. gloria-montis f. sanguinea, 1938), var. bryanii (St. John et Hosaka) comb. nov., var. kukuiensis (St. John et Hosaka), var. longibracteata (Rock) comb. nov., var. molokaiensis (Deg.) comb. nov., G. kauaensis (A. Gray) comb. nov. and its var. hirsuta (St. John et Hosaka) comb. nov., G. villosa (Rock) comb. nov. In addition, there are many new distribution localities (island, district, etc.) reported. As heretofore, the index in front is in the systematic order, with families numbered. A listing of fams. in alphabetical order gives the respective fam. numbers. George M. Hocking, Auburn, Ala.

DUVIGNEAUD, P. et DENAEYER-DE SMET, Simone (avec la collaboration de Jeanine DEWIT, Liliane van BOCKSTAL, Danielle SIEBENS et J. TIMPERMAN). Cuivre et végétation au Katanga. - Bull. Soc. Roy. Bot. Belg. 96: 93-231, 20 figs., 34 photos; 1963.

A young Michigan man will leave Hawaii tomorrow after a 10-month battle with meningitis, the presumed result of eating six African snails last April. Hon Star

Joseph Harper has made "remarkable progress," according to doctors at Maluhia Hospital where he has been confined since July 9. He is overcoming almost total paralysis, but it is a painfully slow process.

The 20-year-old man came to Hawaii last spring and was found by police in a rural part of Oahu wandering "in a dazed condition." He had $8 in his pocket and was unemployed.

He was treated at Queen's Hospital emergency clinic twice but released. When his condition continued to worsen, he was admitted for intensive examination.

ATE 6 SNAILS 1/27/65

Eosinophilic meningitis was discovered.

Then came the tedious job of reconstructing his past history and movements. Harper mentioned that he ate six African snails while walking along the road that April day.

A doctor at Maluhia Hospital said yesterday, "There is no direct evidence linking African snails with meningitis . . . this is a presumptive thing."

But meningitis cases resulting from eating African snails are common in Tahiti, he said.

He said the African snails are known to contain a parasite with larva which has reached the brain and caused meningitis in past cases.

Hawaii has had a medical history of 15 such eosinophilic meningitis cases; two were fatal.

ON MAINLAND

Harper was transferred to Maluhia on July 9 for the prolonged medical care which lay ahead. His family is on the Mainland, so he faced the illness and dismal future alone.

The Maluhia doctor said, "When he came here, he was in a stuporous condition. He was almost totally paralyzed. He could move his eyes and his head and fingers a little, but that was all."

The doctor described Harper's case as "severe," but with months of medical care and physiotherapy, he responded remarkably and amazed even the hospital staff.

NEEDS HELP

When he leaves tomorrow, he will be able to sit up in a Pan American World Airways jet although he will have to be helped on and off in a wheelchair.

He has feeling again. He can use his hands, and he can care for himself. "In time he may have use of his legs," said the doctor.

A nurse will accompany Harper to Detroit where he will enter a rehabilitation center and be close to his family.

Dr. Woodcock boating on Lake Waiau.

A Honolulu meteorologist recently went boating in a liferaft on Lake Waiau atop the Big Island's Mauna Kea.

He dangled fishing poles into the small, snow-surrounded, 13,020 - foot high pond. Hon Star-Bull.

But Dr. Alfred Woodcock wasn't up there to fish. Nor did he see any. 1/27/65

Hanging from his poles were instruments to measure the temperature of the unusual lake, 2½ miles above sea level.

The Hawaii Institute of Geophysics scientist for the past year has been investigating the role of sea salt particles in cloud and rain development by aircraft off the Big Island.

He went over last month for a flight, but the weather wasn't favorable for cloud studies.

Drives to top

Instead, he packed an inflatable emergency liferaft from the airplane into a jeep and drove to the top of Mauna Kea.

Mrs. Constance Carter of Hilo, an amateur geologist, joined him on the excursion.

"It was a little scientific jaunt of my own, out of curiosity," he said.

He said he has written several papers on the temperature of water and bottom mud in shallow ponds and, "I have always wondered about Lake Waiau.

"I have never made any studies of small bodies of water at such high altitude."

The Mauna Kea lake is a scientific puzzle, he pointed out.

"A question which has never been answered is why it remains there. Why doesn't it just seep away through the porous lava?"

He said three possible reasons were suggested in a 1937 study by Herbert E. Gregory and Chester Wentworth.

"It may be frozen underneath. Or there may be an impervious mud layer below. Or it may be plugged up by organic material which has grown into the lake."

It is quite productive organically, he said, because of intense, high-level sunshine and plant nutrients in the water.

"Each time I forced my instruments in the mud, a stream of bubbles came up. There appears to be a lot of algae. The bubbles probably result from photosynthesis among bottom living plants."

He recorded the water temperature at 52 degrees Fahrenheit at the lake's surface and 48 degrees at the bottom.

The mud was quite soft, he said, and was 43 degrees one foot down.

The lake is about 15 feet deep, Dr. Woodcock said.

Melting ice

Cinder cones around the peaks were capped with snow and ice which was melting and running off into the 400-foot wide lake.

"Gregory and Wentworth were right in speculating in their exciting study of Mauna Kea glaciation that Lake Waiau probably overflowed during the spring melting of the snow," he commented.

He said Mrs. Carter did some exploring and discovered that the lake was spilling over into Pohakuloa Gulch.

Dr. Woodcock, now planning another trip to the lake, added that the liferaft was suitable for his purposes.

"But I don't recommend it to anybody," he laughed. "It's hard to pump up at 13,000 feet."

Plant Breeding Abstracts

8568 DEGENER, O. 28(3), 623.
Flora Hawaiiensis. Book 5.
Published privately : undated : unpaginated : figs.

The fifth part of this work maintains the excellent standard already set, particularly with respect to the illustrations [cf. XIX, p. 925]. As before, however, its appearance has been somewhat marred by variation in the size and style of type used, presumably related to the need to fit all the information concerning a species on to one or two pages for ease of filing. Keys to a further nine families are included and a temporary index, for this volume only, lists common Hawaiian and English names and scientific names and synonyms. The index is not easy to use since the numbers refer to the family and not to a specific page and the capitalizing of specific and varietal names in the index is likely to cause some unnecessary confusion and annoyance.

Better Mainland prices for ginger, the root that gives a zing to teriyaki and other Oriental dishes, is the object of a study being made in Hilo.

The Mainland price drops during the peak harvest period, January to April, partly due to competition from Taiwan, Mexico, and British islands in the Pacific.

What's the best way to store ginger, until prices rise later in the season?

The State Department of Agriculture and the College of Tropical Agriculture, University of Hawaii, will try to find out, using a controlled environment chamber at the university's Hilo branch station.

The State produced 705,000 pounds last year, mostly in the Kona and Hamakua districts on the Big Island, and exported one-third to the Mainland.

Farmers received an average of 18.4 cents per pound —about $129,000—last year.

The university's preliminary studies indicate that ginger roots can be stored six months at 55 degrees Fahrenheit and 65 per cent relative humidity with a minimum of shrivelling, sprouting and decay.

More than 300 pounds of Kona and Hamakua ginger will be used in the experiment, which will last through next year.

One of the objectives of the storage study is to show farmers that ginger production can be a profitable venture, according to the State Agriculture Department.

This is expected to stimulate interest in larger exports to the Mainland.

No algaroba in 1820

Editor, the Star-Bulletin: While driving over Kolekole Pass and bumping around Kaena Point to our home on Armed Forces Day, we noticed the building of a "Hawaiian village" at Makua Valley.

The area selected is overgrown with the algaroba or kiawe, a mesquite from tropical America. Perusal of modern local floras available in our public libraries will explain that the first algaroba to reach the Islands stemmed from a single seed planted by Father Bachelot in 1828 in the Catholic Mission grounds on Fort Street, Honolulu. If we note the village reposing in the shade of 60 to 80 year old algarobas, we must date it not at "about 1820" but rather about the end of the Nineteenth Century.

A village like Lahaina "about 1820" had no thorny algaroba to vex the barefoot inhabitant, but perhaps a few yellow-flowered caltrop or nohu nohu (Tribulus cistoides). It had plenty of seaside morningglory or pohuehue (Ipomoea pes-caprae), plenty of beach vitex or polinalina (V. trifolia var. simplicifolia), plenty of Waltheria or hialoa (Waltheria) and sida or ilima, perhaps some native cotton or mao (Gossypium sandwicense), some noni (Morinda citrifolia) for medicine, some screwpine or hala, groves of coconut palms, abundantly scattered breadfruit trees, many cordia or kou (C. subcordata), natural arbors of hau (Pariti tiliaceum), milo trees (Thespesia populnea) and, besides other plantings of edible plants, a couple of red-stemmed chewable sugar cane or ko-ulaula and ti or ki (Cordyline) about every homestead.

The village appears authentic to our eyes excepting for the preponderantly foreign or haole vegetation. But, then, we botanists are accustomed to seeing such discrepancies—what motion picture of African jungle scenes does not show the Mexican Swiss cheese plant (Monstera deliciosa) and other plants foreign to the region!

LOCAL BOTANIST

KAHULUI, Maui — Passion fruit growers on Maui heard the optimistic and pessimistic viewpoints of the industry at a recent meeting attended by approximately 85 persons.

Thomas Shaw, president and manager of the Hawaiian Juice Industries, spoke enthusiastically on the possibilities of passion fruit juice and the acceptance of the product by the consumers.

Mr. Shaw, who was formerly with the University of Hawaii food processing laboratory, stated that his firm is in the market for more passion fruit and pointed out that new mainland markets can be found.

GEORGE BENNETT of Kaaawa Farms warned the growers and prospective raisers to proceed with caution until new uses for the product can be found. He cited instances were passion fruit products are not moving so rapidly on the mainland and stressed that more educational promotion is necessary before blending of passion fruit juice and other mainland products can be recognized as satisfactory.

Stating that the value of the passion fruit is in its blending quality, Mr. Bennett said that it could compete with other fruit juices if the price could be reduced without serious loss to the growers.

WILLIAM BALTHIS and W. J. Tanquist spoke to the growers about loans available from the banks.

The organization of the proposed Maui Passion Fruit Growers Association was postponed to a later date. At the next meeting, the growers will hear Adelino Coito of the Territorial farm loan board and George G. Raymond of the Farmers Home Administration on loans to farmers.

Department of Botany. Dr. Gladys Baker and visiting research mycologist, Dr. Louise Potter visited Tahiti in August, obtaining several collections of fungi for their current research. Dr. Dieter Mueller-Dombois carried out ecological research on the island of Hawaii during the summer months. Dr. Mueller-Dombois is making a vegetation survey of Hawaii National Park. Dr. Charles Lamoureux is now on sabbatical and is currently working in the laboratory of Professor W. R. Philipson at the University of Canterbury, Christchurch, New Zealand.

Visitors. Dr. W. H. Wagner and Mr. M. L. Tessene of the University of Michigan pursued research projects in Hawaii during this past summer. Dr. Wagner continued his extensive study on the cytotaxonomy of the ferns, and Mr. Tessene studied populations of Plantago in conjunction with his biosystematic studies of the genus. Dr. Sherwin Carlquist continued his studies of the Hawaiian flora during the summer and completed field work for papers on dispersal and breeding systems. The Rev. Mr. Norman Cruttwell, Anglican missionary from Eastern Papua, New Guinea visited briefly en route to continue his 19 years of work with the Papuans. Mr. Cruttwell is an active collector, having been trained in his youth by Sir E. J. Salisbury, former director at Kew.

B-16 Honolulu Star-Bulletin, Thursday, April 4, 1968

Botanist fears for Big Isle

VOLCANO, Hawaii — An authority on the plant life of the Big Island's volcano country wants a "fool-proof" fence built to protect it from the axis deer.

Dr. Otto Degener of Volcano and Honolulu has urged the State Supreme Court to delay introduction of the high-leaping game animal to the island until a fence can be erected to protect the national park's flora.

And he is calling on conservation groups as far away as the Mainland to help finance it.

A plan by the State Fish and Game Division to fence in the deer on Mauna Kea for a period of adjustment before deciding on their general release may ease Dr. Degener's fears somewhat.

Division director Michio Takata told the Star-Bulletin yesterday the deer will be confined in a 300-acre pen during extensive testing for disease and adaptability.

Dr. Degener, a former naturalist for the national park and botany instructor at the University of Hawaii, is currently working on Volume 3 of "Flora Hawaiiensis," an extensive catalog of native plant life, under auspices of the National Science Foundation.

He is a collaborator in Hawaiian botany for the New York Botanical Garden and has traveled extensively in the South Pacific to study plants.

In a tract he recently issued to conservation groups and national parks on the Mainland, he says Hawaii is far more interesting from a biological standpoint than the Galapagos, site of Darwin's famed researches, because it is more isolated and harbors a far greater number of endemic, or native, plants.

With few exceptions, he said, native Hawaiian flowering plants are found no place else on earth, and the same was true of insects and birds.

This interdependence built over millions of years, he said, has been seriously upset since the coming of the white man.

There had been no herbivorous animals before, and plant life had no immunity from depredations of cattle, goats, sheep and now deer.

Where permitted to roam, he went on, native plant cover — and even whole forests — have disappeared.

Under growing population pressures, Dr. Degener said, the national parks are about the last refuges of the endemic ecology.

He said he has no quarrel with the court's position that introduction of the deer to State-controlled areas would promote hunting.

But he said he fears the ruling, as it stands, "will do irreversible damage by browsing and trampling to the native plants of Hawaii Volcanoes National Park. . ."

Other Big Island naturalists have protested the release.

One of them, Dr. Roger Baldwin, said the experience on Molokai and Lanai of deer appetites is not valid here because they stayed mainly in kiawe forest.

If they should find the Big Island's mamane palatable, he said, they would destroy many other native species of ground cover as well because of the interdependence of the plants.

flora if fauna is introduced

COLIN POTTER, 1906 - 1966

Colin Potter, who was for thirty years the Resident Superintendent of the Foster Botanic Garden, died in Hilo on May 3, 1966. He was born in Onomea, Hawaii, and graduated from Punahou School. Mr. Potter worked as an Assistant in Botany for the Experiment Station of the Hawaiian Sugar Planters' Association under Dr. Harold L. Lyon. He was associated with the Foster Garden since 1931 when Mrs. Mary Foster gave her home adjoining the HSPA Experiment Station's Forest Nursery to the city of Honolulu. At that time the city purchased the Forest Nursery where Mr. Potter had been employed, and the result was a public botanical park - Foster Garden.

In addition to innumerable contributions to the preservation and growth of Foster Garden, he was known for his successful breeding of ornamental varieties of "ti". Notable among his introductions was the variety, "Peter Buck". During early years failing eyesight made work difficult. He was a long-time member of the Botanical Society. Our deepest sympathy goes to Mrs. Nora Bush Potter of Volcano, Hawaii, in her loss.

A more detailed article about Colin Potter will be written by Dr. Yoneo Sagawa of the Department of Horticulture, University of Hawaii, and will appear in the Orchid Society Bulletin.

E. E. SHERFF, 1886 - 1966

Dr. Earl Edward Sherff, born in Flint, Michigan, May 18, 1886, died on May 16, 1966 in Hastings, Michigan. He graduated from Albion College and the University of Chicago, where he earned the S. M., and Ph.D. degrees, magna cum laude. In 1923 he became Instructor in Botany at Chicago Teachers College, and from 1929 until his retirement in 1951, Head of the Department of Science.

Though he never visited the far-distant Hawaiian Islands due to his devotion to his invalid son residing at home in Michigan, Dr. Sherff monographed much of the native and endemic flora of this remarkable archipelago. The genera treated are Aleurites, Alsinodendron, Antidesma, Bidens, Cheirodendron, Claoxylon, Dodonaea, Drypetes, Dubautia, Euphorbia s.l., Gnaphalium, Haplostachys, Labordia, Lagenophora, Lipochaeta, Munroidendron, Nototrichium, Phyllanthus, Phyllostegia, Pittosporum, Platydesma, Railliardia, Rauvolfia, Remya, Reynoldsia, Schiedea, Sesbania, Silene, Stenogyne, Tetramolopium, Tetraplasandra, and Xylosma. This is an astounding accomplishment for any man. But, in addition to concentrating on elements in the Hawaiian flora, this erudite scholar monographed the huge genus Bidens for the World, and produced numerous taxonomic papers on genera besides those listed above.

The magnificent collections borrowed from the Marie C. Neal Herbarium of the B. P. Bishop Museum was of fundamental aid for his research which was conducted in his office in the Field Museum in Chicago. Many critical specimens, however, were never made available to him during his early studies and hence remain to plague, with provisional or no species identifications, Honolulu workers. B. P. Bishop Museum Directors A. Spoehr and R. W. Force, however, liberalized loan requirements and thus gained hundreds of hours of expert work gratis on genera monographed by Sherff during their more enlightened administrations.

Mrs. Sherff and son Miner survive. (Otto & Isa Degener)

ned botanizing on Lanai, he graciously lent us his voluminous notes about the island's flora for transcription. These he had written about 1930. From our copy, we find the following, the numbers referring to

those of Munro or perhaps even of ..N. Forbes or Harold L. Lyon. Some words are illegible to us and ther- we have noted with ? .

"302 Acacia longifolia mucronata Willd?, small longish oval leaves, Lalakoa Ap. 13/28 flowering, planted 1911. 313 A. decurrens mollis Lindl.? like black wattle, more upright, planted in 1911."

Further in his notes he states: "44 Acacia koa Gray, Palawai June 3/27, flowers no seed pods. Only found on Hoahai [?] patch near Palawai evidently planted by natives. 45 A. koaia Hbd. nat. Koaia. Palawai June 3/27, flowers only. A few - - - -[?]Palawai by koa patch, 1 patch of plants above Konaili [?], 1 near Manaki [?]road, others on east side of Hoanai [?]."

Many pages beyond, Mr. Munro records, a bit repetitiously; "Acacia koa lanaiensis Rock. Not common. A patch probably planted by the natives growing on the hillside south east side of Palawai basin, and more in the scrubby forest near Kalama. A. koa, Asa Gray. Young trees from Oahu seed have made a very good growth. A. koaia, Hillebr. A small patch of trees in the south east corner of Palawai basin, a few on ridges on east side one seen near Maunalei road and one bush mauka of Kahui on the north east side. Acacia dealarbata. Growing around Koele planted a long time ago, forms thickets from suckers, does not seed here. A tree suckering from the roots at Koele evidently an acacia which also does not seed has leaves like koa." Acacia todalytiaefolia, A. spectabilis, planted at Waiakoakua and doing well. A. pendula, A. adunca, A. buxifolia, not doing so well. A. catechu & A. melanoxylon still in nursery."

crater floor, zigzags up the crater wall. Most of the way the trail's sides are protected by railing.

There's an observation point, there's a climb up stairs and into a tunnel, a climb up 99 more stairs and into another tunnel, and finally a winding stairway and an iron ladder up which the hiker climbs to burst into the brilliant sunshine at the top.

The National Guard has constructed an alternate route for the last part of the climb for those who prefer to avoid the tunnel and ladder.

Diamond Head has abandoned bunkers, gun mounts, battery and storage tunnels, communication rooms and observation posts. The coastal artillery guns that once bristled on the rim were never fired in war, but during World War II hundreds of soldiers were stationed on the crater floor.

A NUMBER OF guns were set up during World War I and coastal artillery fortifications were built during the 1930s, using eight-inch thick, steel reinforced concrete walls. The guns were removed after World War II, but the gun mounts remain.

During World War II, Diamond Head was a key observation position for this side of the island; at one time three separate Army units had command posts in Diamond Head. A major communications center was there.

The high point on the rim then was known as Station Easy — the Army designation, E for Easy. It's 763 feet high.

WHICH BRINGS US to the question as to how this particular tuff cone, product of one of the last volcanic eruptions on Oahu, acquired the name Diamond Head.

The first sailing captains gave it various names, such as Point Rose and Conical Mountain. But sometime during the early years English sailors found crystalline rocks near the crater's base and mistook them for diamonds. The name stuck.

The geologist, Chester Wentworth, said the rocks were really olivines, frequently found around the crater's base.

The Hawaiian name was Lae-ahi, or Leahi, usually translated as "forehead of the ahi" because a resemblance was seen between the crater's profile and the head of the tuna fish.

But another translation gives "Lae Ahi" as meaning fire headland. The ancient Hawaiians were supposed to have kept a fire burning on the crest at night, as a guide for sea traffic to Honolulu.

This translation sounds more appropriate, in view of how Diamond Head has welcomed the visitors to Oahu over the years.

-4-

Trees on Kalakaua Avenue

Mrs. C. Dudley Pratt moved that the Conservation mahogany trees on traffic problems in to the Mayor, the C

Water Pollution

The Department tal Health Division amending Section 4 The gist of the causes of their pol assist in investigat of purity of waters ance of such recom persons or public b This is an exce can we limit the amount already bared of ve

The New York Botanical Garden

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In This Issue

Books

Dr. Degener Gets Things Off His Chest

IN 1959 G. C. RUHLE published a 94-page *Haleakala Guide* with a color photograph of the Silversword, native to the Island of Maui. Now appears a companion booklet of 72 pages, *Waimea Canyon and Kokee, A Nature Guide* (Kauai Publishing Co., Lihue, Hawaii), with a color photograph of the Kauai Silversword (*Wilkesia gymnoxiphium*). The author is Thelma A. Hadley, her sponsor the Hui O Laka.

This attractive booklet does not limit itself strictly to northwest Kauai but wisely displays an informative map of the entire island. It describes climate, geology, soil and topography, trails, legends, birds, mammals and, above all, plants. There are 42 half tones, that of mist drifts at Kalalau Lookout being particularly lovely.

As in so many publications, typographical errors have not been weeded out. Though it was permissible in the olden days to spell the name either "Honoruru" or "Honolulu," it is not now permissible to spell "crutches" for "clutches." What raises the hackles of an old biologist like the reviewer, however, is the word "animal" used for "mammal" on page 3, "berry" used for "capsule" on page 39, and "trees and plants" used as a heading on page 9, as though a tree were not a plant! "Trees, shrubs and herbs" could have been used or, simply, "Plants." The "broad-leaved cactus" is *Opuntia megacantha*, a plant with tiny, caducous, awl-shaped leaves and a broadened stem. The *pukiawe* belongs to the Epacris Family, while the *ukiuki* belongs to the Lily Family. The Silversword is not limited to Maui. David Douglas, before his murder on the slopes of Mauna Kea, used dried stalks of this plant as firewood. Not six native lobelia are peculiar to Kauai, as stated on page 30, but well over 30; in Hawaiian Botany they have greatly enriched our Herbarium holdings with their field collections. For decades they have compiled documentation — and worked to preserve — Hawaii's magnificent but severely stressed wildlife resources.

Mr. Anderson, a former editor of this newsletter, is now Honorary Curator of Rare Books and Manuscripts. He was instrumental in the Garden's acquisition of one of its prize possessions, the earliest known medieval manuscript of the *Circa instans*, the fountainhead of modern pharmacology and botany, which he is translating. One of his most recent publications is *An Illustrated History of the Herbals*, Columbia University Press, 1977. The citation noted that despite his official retirement from the Garden, the vast contributions he is making have by no means diminished and it spoke of the "personal and professional enrichment he has brought to all our lives."

Distinguished Service Awards

The New York Botanical Garden presented its Distinguished Service Awards this year to Drs. Otto and Isa Degener and Mr. Frank J. Anderson.

The Degeners, co-authors of *Flora Hawaiiensis or New Illustrated Flora of the Hawaiian Islands*, were cited by the Board of Managers for their continuing contributions, through botany, to botanical science in general and to The New York Botanical Garden in particular. As our Collaborators

and the second paragraph of page 31 obviously applies to the Cyanea rather than to the *Dracaena*, better called *Pleomele*. *Zingiber* (not *Zingeber*) *zerumbet* is a ginger thought to be of ancient introduction by the Polynesians from the South Seas, and is probably about as native to the Hawaiian Islands as are Hawaiians themselves.

The author's account of man's stewardship of this wonderful region is most disheartening. With man's silly introduction of the passionflower that smothers native trees, the raspberry and tibouchina that crowd out native shrubs and herbs, the barn owl that is a veritable flying mongoose, the goat and mouflon that browse along dry cliffs and ledges, already subject to erosion without four-footed help, and the blacktailed deer that will devastate the endemic bog flora of Waialeale, man is wrecking within less than 200 years a flora that has taken 20 million years to perfect. Then, in this Age of the Bulldozer, man proudly slashes a road with his new toy through the endemic jungle from the end of the Kalalau Parking Area around the head of Kalalau Valley.

May the Lord have mercy on the poor souls who have contributed to the rape of Kauai's natural resources and beauty!

The present state of Kauai has stimulated in some quarters the current demand that the most scenic and interesting areas remaining of this island be placed under the jurisdiction of the National Park Service. Having observed the malignant changes about Waimea Canyon and Kokee since 1922 during protracted botanical expeditions, the reviewer feels it is too late to expect the federal government to pull the chestnuts out of the fire for the citizens of Hawaii Nei. Without a king's ransom, Kauai can never be brought back to a natural state within the standards required of a National Park. If the U.S. department of the interior has reasonable funds available for establishment of a National Park with outstanding Polynesian characteristics, it should concentrate on American Samoa, an area that resembles Kauai before the *haole* opened his Pandora's box of biological evils.

—*Dr. Otto Degener*
Author of "Flora Hawaiiensis"

EL IMPARCIAL - marzo 24 -1966. 15 L

Historia Natural y Pro Natura

JACARANDA *(Jacaranda acutifolia)*

Por DEGENER e IBARRA

Varios de los árboles que adornan nuestros parques públicos, avenidas, caminos a los municipios y aldeas, no son propios de nuestro país. Uno de ellos es el que conocemos por el nombre común de jacaranda, hermoso árbol de poderosas raíces que tienta los 4,500 pies o un poco más.

Posiblemente la primera «jacaranda» que mostró sus flores azules en el viejo mundo, fue una especie llevada al invernadero de la condesa De Vandé en Bys-water, Inglaterra, en el año de 1822, planta que fue obtenida en el Brasil en 1818. Años más tarde se le ve también adornando las áreas

Los lectores conocen la «jacaranda», empero, talvez no han observado detenidamente sus hojas y flores, por lo que exhibimos en el presente grabado las partes principales de esta planta, dibujada por el doctor Otto Degener, director de los jardines botánicos de las islas del Hawai. Estos jardines dependen del New York Botanical Garden. Contando con la distinguida colaboración del doctor Degener, quien ya visitó Guatemala, hace varios años, presentaremos ocasionalmente algunas breves notas para informar sobre la flora de nuestro país, así como aquellas especies botánicas que no son propias de Guatemala.— **Jorge A. Ibarra.**

den a levantar el pavimento que los cubra.

Las flores de color morado lila, las ha visto el lector desde marzo en árboles que pueden alcanzar los 15 metros de alto.

En algunos países sudamericanos pueden asegurarle que el origen de esta especie botánica se ha localizado en Colombia, Ecuador, etcétera, pero científicamente debe fijarse su verdadero origen en Brasil, y de ahí el viento y las aves migratorias han ido esparciendo progresivamente sus semillas a otros países de nuestro continente. El Homo sapiens también se ha encargado de cultivarlo, introduciéndolo en regiones situadas desde el nivel del mar hasta verdes de varias ciudades del sur del Africa.

La jacaranda es una planta sumamente resistente a los cambios bruscos de clima, de ahí que poco les afecte el rigor de las heladas, pues luego que ha sido destruida por la nieve, a los pocos meses se le contempla embelleciendo bulevares como sucede en varias ciudades estadounidenses.

Para no cansar a los lectores con términos eminentemente científicos, nos abstenemos de presentarle su descripción, ya que fácilmente identificamos este árbol.

Pertenece a la familia Bignoniaceae, y su nombre científico es Jacaranda acutifolia.

Historia Natural y Pro Natura

AGUACATE *(Persea americana)*

Por DEGENER e IBARRA

Para los centroamericanos y en especial para los guatemalenses, la familia de plantas más interesantes es la denominada Lauraceae, por cuanto en ella se clasifican árboles y arbustos que producen pequeñas frutas que alimentan al quetzal, especie notable en la fauna de nuestro continente y ave nacional de Guatemala. Los árboles en referencia pertenecen a los géneros Nectandra y Ocotea. Fácil es comprender que en lugares arrasados por incendios y talas excesivas, el quetzal tendrá que ir emigrando a montañas donde dichos géneros de plantas existen, cuando no sucumben ante el furor de las llamas, o bien bajo las armas de sus captores inescrupulosos, pues sabido es que a pesar de estar prohibida la captura de este trogónido, hay nativos que al burlar la vigilancia, le dan muerte en lo intrincado de los bosques vírgenes donde anida. Hay que advertir que no todas las especies incluídas en los géneros Nectandra y Ocotea producen el alimento del quetzal, pues es más bien la especie denominada científicamente como Nectandra glabrescens — pequeña fruta que los nativos denominan «aguacatillo»— la preferida por el ave que adorna el escudo de Guatemala.

El verdadero lugar de origen del árbol que preferentemente ocupa nuestra atención, es decir, el «aguacate», aun no se ha establecido con la debida exactitud, empero si debe asegurarse que es propio del trópico de nuestro continente, cultivándose en varias regiones de Guatemala, desde el nivel del mar hasta los 3,000 metros, poco más o menos.

Afirman algunos botánicos que los aztecas se dedicaron al comercio de este apetecido fruto, denominándole «ahuacatl», y cambiándose más tarde por el nombre de «aguacate», nombre así dado inicialmente por los conquistadores.

Los primeros aguacates que llegaron a las hoy ciudades de Hilo y Honolulu en las islas del Hawaii, fueron adquiridas en Centroamérica, en 1853, y el doctor Wilson Poponoe, introdujo tal planta en número abundante en los Estados Unidos, hace unas pocas décadas.

El presente grabado, dibujo del botánico Otto Degener, corresponde al «aguacate», conocido por el nombre científico de Persea americana, especie apetecida por el arte culinario del nuevo y viejo mundo. Asimismo se emplea en algunas industrias de jabón y aceites de cocina.

No se sabe con exactitud el lugar de origen de esta valiosa especie botánica.

use stuck in the hair. When the [illegible]
ming relates, the frantic Fijian kindles a fire of banana leaves, and placing his wooden pillow close to it, gets his head very hard thoroughly smoked. These neck pillows, or <u>kali</u>, usually consist of a stick Sisomisomi wood (Ximenia about one inch in diameter resting on two legs. The one described by Erskine was a cylindrical

Enid and Armin Degener
Before their Fireplace below
a Mural painted by Armin

HESPERIA — Artist Armin Degener of Apple Valley has a charcoal drawing entitled "Old Prospector" on exhibit at the Schiffman Gallery, 9236 Sixth Street, during December.

Degener said the old prospector who modeled for the drawing would work just so long and then he would disappear into the desert. Victor Press

The picture represents nine hours of work, three hours each sitting, said Degener. Many people have complimented him on the drawing, and he has used it as a Christmas card design. 11/29/65

The Degeners were residing in Hollywood in a hilltop home and he was a member of the Businessmen's Art Club when he did his work.

OLD PROSPECTOR
. . . by Armin Degener

On these occasions they use a board, which they call papa he naru, (wave sliding-board) generally five or six feet long, and rather more than a foot wide, sometimes flat, but more frequently slightly convex on both sides.

It is usually made of the wood of the erythrina, stained quite black, and preserved with great care. After using, it is placed in the sun until perfectly dry, when it is rubbed over with cocoa-nut oil, frequently wrapped in cloth, and suspended in some part of their dwelling house.

Recommended Reading

From "Polynesian Researches," by William Ellis, published in London in 1827 by Fisher, Son & Jackson.

Daisies won't tell — but Bruce Watson will.

Given a chance, he'll tell all about daisies — Shasta daisies, that is.

Watson, a one-man ambassador for naming the Shasta daisy as the national flower of the U.S., is in Hawaii urging support for his proposed national flower.

Technically, Watson is here on a vacation with his three sons, Gary, Lawrence and Bruce, Jr.

Actually, however, Watson is spending just enough time off the surfboard to make sure that everybody but everybody thinks about daisies instead of poinsettias.

Poinsettias are generally admitted as being one of the big contenders for the honor of being the national flower.

But Watson prefers daisies: "They have a heart of gold," he grins. "And they grow in every one of our 50 states."

Watson argues that in the competition of flowers being waged in Congress over the last few years, the Shasta daisy should be the national choice.

"The rose is already the national flower of five countries," he said. Other flowers still in the running include the marigold and the carnation.

"A school child in San Mateo, California, got this started," said Watson.

"The children were studying about Luther Burbank, and one of the children asked the teacher why the Shasta daisy wasn't our national flower.

"The teacher told the child to write to the President. The child did, and got a lovely letter back.

"From that point on, the campaign bloomed. The children formed committees, enlisted a voluntary adult advisory board, and began to work," Watson said.

Watson, a baritone recording artist, was asked to boost daisies last year. At the time, he was doing some campaign songs for the Boy Scouts of America.

Pleased with the idea, Watson asked Hollywood song writers Paul Francis Webster and Jerry Livingston to come up with a daisy song.

"The Shasta Daisy Song," is picking up wide popularity in the Mainland, "and will be Watson.

The children who recorded the song with Watson are the same children from Baywood Elementary School in San Mateo who started the campaign.

"The daisy even has history behind it," said Watson. "The first daisy seeds were brought to this country during the Revolutionary days to feed the horses of General Burgoyne's Army. The seeds took root and spread throughout New England.

"Then Luther Burbank perfected the Shasta daisy," he explained.

"This Shasta daisy promotion has been a grass roots movement," Watson said.

He added, "It's so right for our national flower."

Naturalized National Flower

Editor, the Star-Bulletin: I was surprised to learn from Tuesday's Star-Bulletin that the Shasta daisy, a native of the Pyrenees variously hybridized with European and Oriental daisies by Luther Burbank, should be proposed by any one "as the national flower of the U.S." When many thousands of magnificently beautiful flowers are native to the United States why select a foreign hybrid to represent our Nation? Is the grass truly greener on the other side of the fence: are foreign flowers more beautiful than native ones?

Star Bull. 1/5/65

DR. OTTO DEGENER
Author, Flora Haw...

For those who have the ...om and would like to try ...awaii's only commercial ...t tree, macadamia, there ...e several things to consid... before planting.

Generally, named com... ercial varieties are not ...adily available in garden ...ops; or at least they are ...t usually identified as ...ch.

Star-Bull.

A ...ulletin of the Hawaii ...ricultural Experiment ...ation points out that graft... trees of selected varieties ...oduce from three to five ...e as many nuts as ordina... seedlings.

8/12/65

...ince even small trees ...ke up a considerable ...ount of space, the plant... of an unidentified seed... with the expectation of ...h yields may be wastful ...well as disappointing. The bulletin names three ...rieties as outstanding among those selected for commercial plantings.

Keauhou produces a large nut and is suitable for planting in high rainfall areas where there is protection against high winds.

Ikaika is a very vigorous variety that is suitable for planting in difficult areas where soil is shallow and there is little protection against the wind. The main drawback of this type is that the nut is small and the kernel size is one of the smallest of the commercial varieties.

Kakea is another vigorous grower that also is a heavy bearer. The nut and kernel sizes are medium. Younger trees of this variety tend to get top heavy and must be staked.

There is some indication that cross pollination—i.e. between different varieties—may be an important factor influencing yield.

This means that a single tree, even of the commercial type, might produce a disappointing crop if there isn't another tree of a different variety in the vicinity.

Left to themselves, macadamia trees have a very unthrifty mode of growth. They develop multiple leaders that produce weak V-shaped crotches that may cause the tree to split during wind storms. All but one leader should be removed from young trees so that a single trunk will result.

Since the buds develop in clusters of three, there tends to be a poor distribution of branches with some growing almost parallel to the trunk. Pruning of young branches so that only a few, strong, well spaced, horizontal branches develop is an important training requirement.

Given a good variety that is properly trained, there is still the problem of getting the kernel out of the nut. The nuts are harvested after they have fallen from the tree and must be husked within three days, or they will deteriorate. Husking by hand is a slow, tedious process. Even small growers usually employ some sort of mechanical husking device.

LICHENES SELECTI EXSICCATI

EDITI AB INSTITUTO BOTANICO ACADEMIAE SCIENTIARUM ČECHOSLOVACAE, PRŮHONICE PROPE PRAGAM

CURAVIT ANT. VĚZDA

Fasc. XIII. (no. 301—325). I. 1965.

A. VĚZDA: LICHENES SELECTI EXSICCATI

318. **Ramalina similis** H. Magn.

in Ark. f. Bot. 32A (no. 2) : 9. 1945, Stockholm.

Hawaii Insulae — Lanai: Mahana, alt. ca. 420 m s. m. — I. 1964. — *Ad saxa nube interdum inducta, locis soli et ventis expositis. Leg. Otto et Iso Degener, det. et comm. O. Klement*

A. VĚZDA: LICHENES SELECTI EXSICCATI

321. **Usnea hawaiiensis** Mot.

Lich.Gen. Usnea p. 502, 1936—38; H. Magn. in Ark. f. Bot. 38A (no. 2) : 26-1945, Stockholm. — *Usnea australis* v. *sorediifera* Mey. et Flot. in Nova Acta Acad Leop. Carol. 19 (suppl) : 209, 1843.

Hawaii Insulae — Lanai: Naio, alt. ca. 570 m s. m. — 19. I. 1964. — *In ramulis arborum ad marginem sylvae siccae. Leg. Otto et Iso Degener, det. et comm. O. Klement*

A. VĚZDA: LICHENES SELECTI EXSICCATI

324. **Physcia picta** (Sw.) Nyl.

in Mém. Soc. Imp. Sci. Nat. Cherbourg 3 : 175, 1855. — *Lichen pictus* Sw., Nova Gen. et Spec. Plant. p. 146, 1788.

f. **isidiiphora** Nyl.

in Flora 50 : 3, 1867; H. Magn. in Ark. f. Bot. 32A (no. 2) : 62, 1945, Stockholm.

Hawaii Insulae — Lanai: Honopu, alt. ca. 300 m s. m. — 16. I. 1964. — *Ad cortices truncorum in saepimentis, locis aridis. Leg. Otto et Iso Degener, det. et comm. O. Klement*

Gloss on Kukui

Adv. Star Bull. 10/7/64

Dear Napua: Did you ever mention in any of your columns or on TV how to make kukui nuts black and glossy? If you did I must have missed it. I would like to know so that my Girl Scouts can follow through on their seed lei project.—**Leader.**

Dear Leader: For the Girl Scouts I don't mind repeating the information. Kukui nuts are buried in mud for six months or longer (the longer the better) and when dug out they will have that patina of glossy ebony so desirable for the traditional leis.—**Napua.**

Troublesome Pineapple Weed Came Hawaii By Error

North Shore Gazette,
Haleiwa, Oahu
2(5):7.1965.

By OTTO DEGENER

ONE of the conspicuous grasses in pineapple fields of the Wahiawa-Haleiwa area and elsewhere is the sourgrass, botanically known as Trichachne insularis.

It prettily overtops the pineapple plants, its hairy plumes resembling miniature gray flags in the breeze. The grass is of course a troublesome weed on our plantations, and harmful on ranches as it is not only unpalatable to stock but crowds out valuable forage plants.

Well, then, when this grass is so harmful, how did it ever manage to cross the American continent and half the Pacific from its Puerto Rican home to Oahu?

Now that the men involved—none of them botanists or horticulturists—are no longer living, the true story can be told without embarrasment to anyone.

Pensacola Street, Honolulu, was the site of a government experiment station. One of the day laborers related how a grass grew in his native country that was used for making straw hats. As "crackerbox" straw hats were still the fashion in Hawaii, an experiment station official asked him to write home to Puerto Rico for seed. These came, were planted at Pensacola St., and grew to maturity.

Before tests proved the sourgrass a harmful weed, the wind had carried its seeds far and wide. Now that it is here, like the African snail, we can't get rid of it.

Eventhough Hawaii has sugered from the introduction of harmful plants such as the sourgrass we seem not to learn by experience. There are still people, proud of their patriotism, who think it smart and cute to smuggle plants from America and Asia into the Hawaiian Islands, not realizing that to do so can do untold harm to their own good and welfare.

(Mr. and Mrs. Otto Degener, residents of Mokuleia, have authored many books and treatises on plants and trees in the Hawaiian Islands. Information from the husband and wife team is regarded as being one of the foremost authorities by botanists around the world.)

Trichachne, or sourgrass weed.

PORTRAITS OF OLD BOTANISTS
Edited by W. Junk. 1925

In Folio. 25 Portraits w. letterpress ƒ 36.—

Contents: J. Barelier (1606—1673), J. Bauhin (1541—1613), K. Bauhin (1560—1624), B. Besler (1561—1629), J. Burmann (1706—1779), J. Camerarius (1515—1598), A. Cesalpini (1519—1603), L. Fuchs (1501—1566), C. Clusius (de l'Ecluse) (1525—1609), R. Dodonaeus (Dodoens) (1517—1585), J. G. Gleditsch (1714—1786), N. Grew (1641—1711), J. Ingen-Housz (1730-1799), N. J. Jacquin (1727—1817), C. Linnaeus (1707—1778), A. Lonicerus (Lonitzer) (1528—1586), M. Malpighi (1628—1694), P. A. Matthiolus (Mattioli) (1500—1577), R. Morison (1620—1683), J. Rajus (Ray) (1628—1704), A. Q. Rivinus (Bachmann) (1652—1723), G. E. Rumphius (Rumpf) (1627—1702), E. Sweert (born about 1552), J. Th. Tabernaemontanus (1520—1590), J. P. de Tournefort (1656—1708).

w Zealand. After a stay of

The New York Botanical Garden

Newsletter

Volume 13, Number 3
June/July 1979

Bronx, N.Y. 10458
212-220-8700
or information line:
212-220-8777

In This Issue

Books

Dr. Degener Gets Things Off His Chest

IN 1959 G. C. RUHLE published a 94-page *Haleakala Guide* with a color photograph of the Silversword, native to the Island of Maui. Now appears a companion booklet of 72 pages, *Waimea Canyon and Kokee, A Nature Guide* (Kauai Publishing Co., Lihue, Hawaii), with a color photograph of the Kauai Silversword (*Wilkesia gymnoxiphium*). The author is Thelma A. Hadley, her sponsor the Hui O Laka.

This attractive booklet does not limit itself strictly to northwest Kauai but wisely displays an informative map of the entire island. It describes climate, geology, soil and topography, trails, legends, birds, mammals and, above all, plants. There are 42 half tones, that of mist drifts at Kalalau Lookout being particularly lovely.

As in so many publications, typographical errors have not been weeded out. Though it was permissible in the olden days to spell the name either "Honoruru" or "Honolulu," it is not now permissible to spell "crutches" for "clutches." What raises the hackles of an old biologist like the reviewer, however, is the word "animal" used for "mammal" on page 3, "berry" used for "capsule" on page 39, and "trees and plants" used as a heading on page 9, as though a tree were not a plant! "Trees, shrubs and herbs" could have been used or, simply, "Plants." The "broad-leaved cactus" is *Opuntia megacantha*, a plant with tiny, caducous, awl-shaped leaves and a broadened stem. The *pukiawe* belongs to the Epacris Family, while the *ukiuki* belongs to the Lily Family. The Silversword is not limited to Maui. David Douglas, before his murder on the slopes of Mauna Kea, used dried stalks of this plant as firewood. Not six native lobelia are peculiar to Kauai, as stated on page 30, but well over 30; in Hawaiian Botany they have greatly enriched our Herbarium holdings with their field collections. For decades they have compiled documentation — and worked to preserve — Hawaii's magnificent but severely stressed wildlife resources.

Mr. Anderson, a former editor of this newsletter, is now Honorary Curator of Rare Books and Manuscripts. He was instrumental in the Garden's acquisition of one of its prize possessions, the earliest known medieval manuscript of the *Circa instans*, the fountainhead of modern pharmacology and botany, which he is translating. One of his most recent publications is *An Illustrated History of the Herbals*, Columbia University Press, 1977. The citation noted that despite his official retirement from the Garden, the vast contributions he is making have by no means diminished and it spoke of the "personal and professional enrichment he has brought to all our lives."

Distinguished Service Awards

The New York Botanical Garden presented its Distinguished Service Awards this year to Drs. Otto and Isa Degener and Mr. Frank J. Anderson.

The Degeners, co-authors of *Flora Hawaiiensis or New Illustrated Flora of the Hawaiian Islands*, were cited by the Board of Managers for their continuing contributions, through botany, to botanical science in general and to The New York Botanical Garden in particular. As our Collaborators

Ala Moana Center
Honolulu, Hawaii

and the second paragraph of page 31 obviously applies to the Cyanea rather than to the *Dracaena*, better called *Pleomele*. *Zingiber* (not *Zingeber*) *zerumbet* is a ginger thought to be of ancient introduction by the Polynesians from the South Seas, and is probably about as native to the Hawaiian Islands as are Hawaiians themselves.

The author's account of man's stewardship of this wonderful region is most disheartening. With man's silly introduction of the passionflower that smothers native trees, the raspberry and tibouchina that crowd out native shrubs and herbs, the barn owl that is a veritable flying mongoose, the goat and mouflon that browse along dry cliffs and ledges, already subject to erosion without four-footed help, and the blacktailed deer that will devastate the endemic bog flora of Waialeale, man is wrecking within less than 200 years a flora that has taken 20 million years to perfect. Then, in this Age of the Bulldozer, man proudly slashes a road with his new toy through the endemic jungle from the end of the Kalalau Parking Area around the head of Kalalau Valley.

May the Lord have mercy on the poor souls who have contributed to the rape of Kauai's natural resources and beauty!

The present state of Kauai has stimulated in some quarters the current demand that the most scenic and interesting areas remaining of this island be placed under the jurisdiction of the National Park Service. Having observed the malignant changes about Waimea Canyon and Kokee since 1922 during protracted botanical expeditions, the reviewer feels it is too late to expect the federal government to pull the chestnuts out of the fire for the citizens of Hawaii Nei. Without a king's ransom, Kauai can never be brought back to a natural state within the standards required of a National Park. If the U.S. department of the interior has reasonable funds available for establishment of a National Park with outstanding Polynesian characteristics, it should concentrate on American Samoa, an area that resembles Kauai before the *haole* opened his Pandora's box of biological evils.

—Dr. Otto Degener
Author of "Flora Hawaiiensis"

Dupl. to Tobin

200 M 101

Waialua, Oahu, 96791.
Sept. 13, 1967.

My dear Ladies:

What is all the hulaballoo in the newspapers about? I wrote a letter to the Editor, which was never printed. Instead, some reporter garbled its sense in the Star-Bulletin column of Sept. 11, My subject was the access road to Haw. Volc. Nat. Park. I am not a botanical Carrie Nation chopping down with my little hatchet every African tuliptree I see. In fact, on my property on University Ave., Honolulu, I have exotic tuliptrees, showers, plumbago, etc.; at my Mokuleia property exotic Bougainvillea, c crotons, etc; and at my mountain, Volcano home exotic Azalea (far too many), roses and Shasta daisies! Furthermore, I have introduced to the Lyon Arb., palms from the Bahamas; and to Foster Gard., Sterculia from Egypt , the lovely variegated noni (Morinda citrifolia potteri) from Fiji, etc.,etc. Conversely I mail seeds & plants of choice Haw. endemics to interested Mainland & Foreign bot. gardens & institutions as gifts.

Please read the enclosed copy of my letter to the Star-Bulletin & others, and compare it with the newspaper column which I disown.

I hope you will complain to the newspaper for trying to involve us in controversy that apparently never existed so far as we are concerned.

I am not a Nat. Park botanist as stated in the column, but was Naturalist in 1929 and have not been connected with the Park Service since. I am originally a New Yorker and since 1933 a staff member of the New York Botanical Garden. In 1962 I was awarded the Linné Medal by the Swedish Academy of Sciences in Stockhom for my researches. I do not lecture, expecting interested individuals to glean facts from my publications available in larger libraries.

Aloha,

Otto Degener

Hawaiian for residents and for the tourists within our midst, we must guard against the danger of so-called "beautification" consisting of growing any of the above-named exotics and their ilk in this area. It would distinctly change the character of the area from near-authentic Hawaiian to imitation Florida or elsewhere. Waikiki is already too much like Miami for the average tourist; why err similarly with our roadsides?

Our Islands are internationally famous for the beauty and scientific importance of their native flowering plants, 98% of which are to be found no other place on earth. The most feasible and practicable method of beautifying our roadsides is to use Federal funds available to engage crews armed with saws, picks, shovels, axes, caneknives and weed sprayers to eradicate the <u>malihini</u> introductions already there. No replanting will be necessary as the native plants have been able to take care of their own distribution without man's help for millions of years. Their spores and seeds will quickly germinate in any void left by the removal of the foreigners. Within a year or two the area will be what it was like in the time of Kamehameha I, with a resulting saving of Federal funds for the financing of similar beautification projects along additional stretches of the Belt Road.

Otto Degener

Dr. Otto Degener
Naturalist, Haw. Nat. Park, 1929
Author, Flora Hawaiiensis

Cc., Burns, Fong, Tobin, Schuster, Fruto, local newspapers, and Botanical & Conservation groups.

No aloha for plants

SIR: Dr. Degener's reference (Sept. 11) to "damn haole plants" such as the "African tulip tree", "Asian bamboo," "Banyan," "Australian eucalyptus," "Asian mock orange," et al. obviously indicates that the good doctor has picked one flower too many! When he makes reference to plants such as the bougainvillea, croton, lantana, monstera as haole plants, he implicates that East Indian and South American origins are as haole as the Equator itself!

Deep down on the list he might also include the Tahitian gardenia and the African orchid. In fact, all the animals in the zoo would most necessarily be deported back to Africa, Asia or whence they came. All haoles, Chinese, Japanese, Portuguese, Koreans, in fact all the people on the streets (including Degener) would be up for "eradication." And when the proper time came, the native Hawaiian himself would be deported back to Bora-Bora.

Dr. Degener forgets that "aloha" connotes welcome, and is the basis for every aspect for acculturation for which Hawaii singularly stands proud.

W. PATRICK PANASUK

Hon. Star-Bull. 9/15/87

Yankee plants go home, says botanist

Hon. Star-Bull.

Dr. Otto Degener, Hawaii National Park botanist since 1929, says that "damn haole" plants in Hawaii should be destroyed — especially the ones along the Volcano Road on the Big Island.

In response to a recent Star-Bulletin story on the preservation of scenery on the Volcano Road project, Degener has suggested that extermination of all but Hawaiian plant varieties would "save federal funds" and make it "more like the time of Kamehameha I."

"We must guard against the danger of so-called "beautification" consisting of growing non-Hawaiian plants he said. "It would distinctly change the character of the Volcano Road area from near-authentic Hawaiian to imitation Florida or elsewhere."

9/11/67

Just like Miami

"Waikiki is already too much like Miami for the average tourist," he said. "Why err similarly with our roadsides?"

Nearly $1 million in funds have been granted Hawaii under the federal Highway Volcano Road project is an example of their use.

It calls for widening the road in the Glenwood section between mileposts 18 and 22. The narrow shoulders and deep ditches will be eliminated. They will be widened to 10 feet bordered by concrete gutters.

The beautification project is separate and financed entirely by federal funds.

Under this, scenic strips along each side of the road will be purchased, extending between mileposts 17 and 22. They will be 110 to 150 feet wide — enough to assure that the road will remain surrounded by fern forest.

But, according to Degener, "the most feasible and practicable method of beautifying our roadsides is to use the federal funds available to engage crews armed with saws, picks, shovels, axes, caneknives and weedsprayers to eradicate the malihini introductions already there."

No replanting

"No replanting will be necessary as the native Hawaiian plants have been able to take care of their own distribution without mans' help for millions of years. Their spores and seeds will quickly germinate in any void left by the removal of the foreigners."

Degener has travelled and collected plants since 1920. He has visited Bermuda, Florida, the Bahamas, California, Mexico, Guatemala, Fiji and equatorial countries in his study of plant life.

These are precisely the places many tourists to our shores have visited, said Degener.

"The tourist to the Hawaiian Islands sees pretty much the same gaudy flowers he has seen before. So why can't visitors see native Hawaii plants instead?" he asked.

Some of the plants Degener would like to see eradicated are the African tulip-tree, the Asian bamboo and banyan, the American bougainvillea and croton, the Australian eucalyptus, the American lantana and monstera and the Asian mock orange.

Exotic roadsides

Hon. Star-Bull. 9/16/67

SIR: I advocated encouraging the growth of native plants along a particular scenic strip between Hilo and the Kilauea Volcano area by destruction of competing "damn haole" introductions. Among these are the angels trumpet, which is violently poisonous and has caused the death of children playing with it; the elderberry and Isotoma, which are both poisonous to stock; Florida and Himala blackberries, which form impenetrable thickets; Pyracantha with cruel thorns; etc., etc.

I definitely did not wish my statement to apply to eradicating exotic ornamentals wholesale from our roadsides, though I do favor paying more attention to our native beauties such as loulu palms, bastard sandalwoods, wiliwili tree, naupaka, alii, Canthium, Kokia, Thurston soapberry, our many native white, red, pink and yellow hibiscus, etc. I am decidedly not a botanical Carrie Nation with my little hatchet chopping down every African tulip tree I see.

In fact, on my own properties, among endemics, I cultivate such haole as African tulip, Japanese azalea, Indian banyan, and American Hoya, Monstera or Swiss-cheese plant, Pedilanthus and seagrape.

DR. OTTO DEGENER

Editor's note: We did say that Dr. Degener was proposing this only for the Volcano area. Along the strip of road in question he identified 69 kinds of exotics now growing. In warning against "growing any of the above-named exotics and their ilk in this area," Dr. Degener went on to say: "Waikiki is already too much like Miami for the average tourist; why err similarly with our roadsides?" The plural is his, izes what that means.

The Hawaiian roadside

Hon. Star-Bull.

Hawaii prides itself on its interracial population. People from remote parts of the globe live and work together amicably.

9/12/67

The same we have always thought, applies to our plants. Many of our most beautiful flowers are exotics, not native to Hawaii.

Comes now Dr. Otto Degener, longtime national park botanist, to say that our roadsides should be planted with nothing but Hawaiian flora.

Get rid, he says, of the gaudy African tulip. Down with the banyan—it's an Asian import. Away with bougainvillea and croton.

Agreed that we should, so far as possible, keep exotics out of our national parks, which are designed to preserve the primeval wilderness. Agreed, also, that we should do all we can to preserve the Hawaiian species in danger of extinction.

But look around you and ask how Honolulu would look without the shower trees, the banyans and the countless other flowering imports. Foster Garden is exotic from one end to the other.

Dr. Degener has locked horns with the Outdoor Cricle, which has brought many exotics to Hawaii, and has defended others, notably the King-Keeaumoku banyan. We hope he-real-

Maui's wild and verdant Kipahulu Valley one day may become a corridor linking the summit of Haleakala National Park with Laurance Rockefeller's Seven Sacred Pools near Hana. It is a valley into which few persons have ever ventured.

Hon. Star-Bull, Adv.

The Nature Conservancy, a private, non-profit national conservation organization, recently was granted an option to purchase the valley if it can raise $500,000. Mr. and Mrs. Hamilton McCaughey, owners of the Kipahulu Cattle Co., granted the option.

9/-3/67

However, before setting out to raise funds, the Nature Conservancy decided to have a natural history survey made of the wilderness portion to be certain of its potential as a wild park. This survey has been just completed.

In July, Dr. Richard Warner, 38, of Honolulu was appointed to lead a month-long, 16-man expedition into the valley to answer the following questions:

- Are there remnants in the valley of rare species of Hawaiian birds?
- Would the area produce fruitful results for scientists studying such matters as evolution, and plant and animal ecology?
- Is the vegetation unusually primeval?
- Besides the Seven Sacred Pools, are there other areas of scenic and aesthetic interest?

Included in the expedition were University of Hawaii scientists Dr. Charles Lamoureux, Dr. Andrew Berger, Dr. Hampton Carson, Dr. John Murphy, Dr. Bill Heede, Kenneth Kaneshiro, Robert Iwamoto, Ali Navvab, Robert De Wreede and Joaquin Tonorio; Dr. Nixon Wilson, of the Bishop Museum; Dr. Martin Griffin, of Kentfield, Calif.; Jerry Swedberg, of the Hawaii State Division of Fish and Game; Winston Banko, of the U.S. Fish and Wildlife Service; and Garrett Smathers, National Park Service.

The survey was made possible by a $5,000 grant from the National Park Service, and logistic support from employes of the Kipahulu Cattle Co., under the direction of its manager, Jack Lind.

In an Aug. 15 letter to Huey D. Johnson, western regional director of The Nature Conservancy in San Francis-

HAWAIIAN BOTANICAL SOCIETY
c/o Department of Botany, University of Hawaii
2550 Campus Road, Honolulu, Hawaii 96822

American Horticultural Council, Fairchild Tropical Garden, Botanical Garden of Rio de Janeiro, and received the honorary degree of Doctor of Science from Florida State University.

•

ED MENNINGER'S new book, like his first, is the result of worldwide research. "Fantastic Trees" describes those members of the arboreal world that do eccentric, almost unbelievable things. Just as his brothers, the psychiatric whizzes, delved into the behavior of people, "Big Ed" has examined the strange behavior of trees that have "departed from the norm" in their struggle for existence.

•

THERE ARE trees that walk on stilts, like our own Florida mangroves, trees that flower and produce fruit underground, trees that use hundreds of intelligent devices to cast the torch of their seeds ahead into the future . . . trees that make their own water tanks in the desert, some that switch sexes, many that make perfume to lure insects that fertilize their flowers . . .

•

THERE ARE marvels and monstrosities in the world of trees, but nowhere is there "The Man-Eating Tree" which was a favorite subject of Sunday supplements half a century ago.

•

SOME TREES tell time and predict weather; there are trees that make their own rain. Natives of Malaysia worship certain trees. In West Tropical Africa there is a tree that does its own arithmetic so accurately that, if you know its age, you can determine the exact number of its leaves by a mathematical formula.

"FANTASTIC TREES" will be published by The Viking Press, 625 Madison Ave., New York, $8.95, on Jan. 24, 1967.

•

IT MARKS another milestone for a country newspaperman who became a world authority—in his spare time, above the pressures of payrolls and deadlines—on a subject he loved. I know how busy he was. I worked for him for 26 years. And when I hear people say that "the pressures of their jobs keep them from doing anything worthwhile," I think about his accomplishments.

•

"BIG ED" is fighting it out in Martin Memorial Hospital at Stuart right now, recovering from an auto wreck. It wouldn't be amiss for his friends to drop him a note congratulating him on his new book.

More appropriate palms

Editor, the Star-Bulletin: Perhaps the destruction of the group of Cuban palms growing about the statue of Kamehameha was a blessing in disguise. Now they can be replaced with palms more appropriate for the Islands.

The Hawaiian Archipelago is famed for the many kinds of fan palms of the genus Pritchardia. Almost all are peculiar to Hawaii Nei, and found no other place on earth. The Cuban royal palm was a stranger to Kamehameha, but this king was certainly familiar with the endemic palm, known to him as loulu. 2/25/67

We suggest that the Kamehameha statue be surrounded, not by haole palms but by the native loulu. It is far more appropriate. The stately beauty of these palms is familiar to anyone who visits Foster Botanical Garden in Honolulu.

DRS. OTTO & ISA DEGENER
Authors, Flora Haw.

Degener's Reply to "The Hawaiian Roadside" Editorial

(On September 11, 1967, the Honolulu Star-Bulletin published an article indicating that Dr. Otto Degener had made certain critical statements about the proposed landscaping along the road from Hilo to Hawaii Volcanoes National Park. The following day the Star-Bulletin published an editorial criticizing Dr. Degener for the remarks which they claimed he had made. However, Dr. Degener's original letter was never published, and the statements criticized in the editorial were not made by Dr. Degener but by a reporter who abstracted his letter. Consequently, we print here the full text of the original letter and Dr. Degener's reply to the editorial.
-Editor's Note)

Dear Sirs:

The editorial in the Honolulu Star-Bulletin of Sept. 12 criticizing me is based on a reporter's article in the same paper the day before, purporting certain statements to me. These the reporter garnered in garbled version from my letter of Sept. 4 to the Editor, a letter that has never been published. In short, I disclaim responsibility for the reporter's surprisingly interesting article, and herewith re-request a second time that my original letter be printed. Copies had been mailed to Governor Burns, Senator Fong, Supt. Tobin, local newspapers, and botanical as well as conservation groups. It read as follows:

P.O. Box 154, Volcano, Hawaii 96785
Sept. 4, 1967.

Dear Sirs:

I was interested in the Sept. 1 article appearing in the Honolulu Star-Bulletin entitled "Preservation of Scenery in Volcano Road Project." As resident taxpayer of the Volcano area and professional botanist, I herewith wish to add a few of my own observations and suggestions.

I have traveled and collected plants since 1920 in such tropical and subtropical regions as Bermuda, Florida, the Bahamas, California, Mexico, Guatemala, Fiji and in areas near the Equator during a six months 'round the World tour. These are precisely the places many tourists to our shores have visited. Thanks to the activity of gardeners and horticulturists throughout the World who have been actively exchanging seeds and cuttings for some hundred years, the tourist to the Hawaiian Islands sees pretty much the same gaudy flowers he has seen before. When you have seen them already in Florida or elsewhere, it is all very nice but a bit monotonous to see this same vegetation all over again in Hawaii. Why cannot visitors to Hawaii see native Hawaiian plants instead?

The scenic strips along each side of the Volcano Road are to be 110 - 150 feet wide. This area presently is a refuge for numerous kinds of native Hawaiian plants, such as treeferns and ohia-lehua trees, intermixed with "damn haole" introductions. Many of these last I include in the following informal list:

Angels trumpet (the deadly poisonous Brugmansia), America; Abutilon, America; Acalypha, South Seas; African tuliptree, Africa; Allamanda, America; Avocado, America; Azalea, America, Asia; Bamboo, Asia; Banyan, Asia; Begonia, America, Asia; Bignonia, America, etc., Bixa, America; Bougainvillea, America; Brassaia, Australia;

REVIEW

Otto & Isa Degener

Bernhard Zepernick of Berlin, Germany, in Baessler-Arch. Beitr. Voelkerk. Bd. 15:329-365. 1967, deals with "Bemerkungen zur Faerberei der Polynesier" or, roughly translated, "Remarks about Polynesian Dye Plants." The article deals with about 100 species , giving their correct scientific names (without authorities, however) and indicating when necessary the synonyms used by about 60 authors in over 90 articles. The commonest dyes are gained from Curcuma longa, Aleurites moluccana and Morinda citrifolia. The author describes the plants used for certain dyes (blue and green are rare), in what island groups they are used, on what materials, and their vernacular names. The reviewers wish to alert the reader that Solanum nigrum was in Polynesia long before the coming of the Caucasian explorers, and that Ricinus communis is a common, naturalized weed. Two endemic species of Rubus exist in the Hawaiian Islands and hence the name of one should not be a synonym of the other. Mr. Zepernick, with aid of five tables, has given us in less than 50 pages what the usual author might give us in a booklet of 150 or more. The study is of general interest to botanists as well as anthropologists dealing with the islands of the Pacific.

BOTANICAL SOCIETY NEWSNOTES

New Officers Elected: At the December meeting of the Hawaiian Botanical Society, the officers for 1968 were elected. They are:

President: Dr. Daniel D. Palmer, M.D. Dr. Palmer is a physician and surgeon specializing in dermatology.

Vice President: Dr. Douglas Friend, Associate Professor of Botany, University of Hawaii.

Secretary: Mr. William Sakai, N.E.E.A. Fellow in Botany, University of Hawaii

Treasurer: Dr. Paul Ekern, Professor of Soil Science and Hydrologist, Water Resources Research Center, University of Hawaii.

Directors: Dr. A. C. Smith, Wilder Professor of Botany, University of Hawaii, the retiring President of the Society.

Dr. Richard W. Hartmann, Assistant Horticulturist, University of Hawaii, the retiring Secretary of the Society.

Bush Elected to Life Membership: Mr. William M. Bush, for the past 27 years the Treasurer of the Hawaiian Botanical Society, was unanimously elected a Life Member of the Society at the December meeting. During 1968, Bush will retire from his position as Executive Vice President of Castle and Cooke, Inc.

An Interpretation of Things Hawaiian

Comments on Customs Past and Present

Last week, the Kumulipo, or Creation according to the Hawaiians, was discussed. This week, I intend to discuss those theories held by the Bishop Museum scientists as to the origins of the Polynesians and see if they agree in any way with the beliefs of the forerunners of the Hawaiian race.

For about eight years, 1922-1930, the Bernice Pauahi Bishop Museum ethnologists have been working on the origin of the Hawaiian people. Conclusion has more or less been drawn that southeastern Asia was the cradle of the Polynesians, that those peoples had either been forced out or that they had taken long fishing cruises and lost their routes. It is conjectured that the Dravidians, or aboriginal Indians were taken to the sea, as the Aryans migrated southward from the north across the Deccan Plateau. This must have taken place before 500 B.C. since we note that Gautama Buddha, the founder of the great religion of Buddhism was born between five and six centuries before Christ, in Kapilavastu, Nepal, on the northern banks of the Ganges, India. It is furthermore stated that this Buddha was the son of one King Suddhodana of Aryan blood. Such being the case then, if the theory of the northern invasion of the Aryans into India is correct, the Dravidians must have taken to the Pacific many centuries B.C.

The expansive Pacific contains the most scattered groups of islands on the face of this earth. There are at least four great division of islands, which are named in the order of their proximity to the Asiatic continent as follows: Indonesia, Micronesia, Melanesia, and Polynesia. Dr. Churchill in his "Polynesian Wanderings," a scholarly work published by the Carnegie Press, outlines several routes that may have been taken by pioneer settlers of the Pacific island groups.

The Polynesians, as the name implies, are a stock of people with mixed bloods. Therefore, it seems quite logical to conclude that they (Polynesians) must have come in contact with Micronesians, Indonesians, and possibly Melanesians in their long journeys across the sea. It is even likely that the Polynesians, the north-easternmost group of people in the Pacific, have migrated in waves, each wave probably following a different route.

The Hawaiians tell of one Hawaii-Loa who came from the Yellow Sea of Kane. Such scientists as Emerson, John Pogue, of an early Missionary extraction, and Fornander seem to contend that the Hawaiians were probably Arabians. This leads me to a discussion of the theory of the Lost Tribes of Israel. As was mentioned within these columns some time ago, some Hawaiians believe in the Israelitish story, and contend that they have sprung from such a source. It is interesting to note that the Mormons have a strong conviction and belief in this theory. They bring out similarities in Hawaiian and Jewish traditions and customs (Such similarities were pointed out within these columns last year.) Among some of them were the customs of sacredness of certain foods, of poetry forms, and of certain marriage rituals.

I have been informed that the number of priesthoods in the Hawaiian religion (3) correspond identically to those found in the Jewish religion. Furthermore, the practice of circumcision was a necessary function, in both societies. Again, about three years ago, Dr. Nakaseko of Japan, first Carnegie Exchange Professor to the University of Hawaii informed the writer that there is a belief that the Japanese have come from the tribe of Israelites known as Gad. He went further, and pointed out similarities between Hawaiian and Japanese customs and words.

Another informant introduced the similarities between Hawaiian place names as, Puna and Kona on the island of Hawaii with Pali and Sanscrit. De Zuinaga, a Spanish historian, contributes the hypothesis of an eastern migration to Polynesia, and convincingly argues that Mexico and South America may have been possible sources for the Hawaiian people.

Not so long ago, Dr. T. T. Waterman of the Anthropological Dept. presented a paper before the Hawaiian Historical Society in which he compared the similarities between Hawaiian and certain American Indian words. I could go on and on mentioning the various theories and hypotheses as advanced by scientists as to the origin of the Polynesians, but that has not been my intention in so brief a treatment of the subject.

Max Muller, an eminent philologist has written a thesis in which he compared the Polynesian language with almost every other one today, and states that the language has followed a route eastward by land, and then has doubled back by sea.

Coming back to the theory of Bishop Museum scientists, that of an Asiatic origin. The results of the work have not been published yet, but with their publication will come a better understanding of the whole problem of race origins. To my mind, studies will only prove that the human race has had a common cradle, but the question is, "From whence the human Race?" Has it been from biblical interpretations, "go ye and replenish the earth," or has it been from southeastern Asia? The Kumulipo has a very little in common with the Asiatic Indian philisophy, although Hawaiian customs and musical instruments resemble Hindu to a remarkable degree.

(To Be Continued)

EXCESSIVE EFFICIENCY OR BOONDOGGLING?

Editor The Star-Bulletin,

Sir: In Honolulu, with its large transient population of tourists and army personnel, the postoffice no doubt receives many requests for the forwarding of mail to a new address yet unknown to correspondents. First class mail, obsoletely addressed, is quickly expedited to its proper destination with the superb efficiency built up by the postal service. But the proper grade of efficiency perhaps does not always apply to the handling of second and third class mail. Here it seems either Excessive Efficiency or Boondoggling applies.

What traveler has not received a dainty, gray postcard from Mr. Farley's branch of the government notifying him that mail is being held for additional postage? "What can this be?" thinks the "addressee." If a red blooded American he hopes it is some literary item of value, take a sporting chance and sends the gray card in a 3-cent envelope to the postoffice with the additional stamps necessary to defray cost of forwarding. If, on the other hand, he is an American only a generation or two removed from the auld warld and still pinches pennies, he refrains from this procedure. Instead, he waits a week for the mail matter to accumulate, then hitch-hikes to the offended postoffice, pays simply a penny for each gray card received and goes triumphantly home with his loot. This, alas! he rarely discovers to be literature of interest but rather kind invitations to purchase oil stocks, gadgets and what-nots galore. He took his chance and, like most gamblers, lost! With the sending of an occasional gray card, the postoffice still maintained its proper efficiency.

If the transient addressee (even after notifying the postal authorities in writing not to bother sending notices of the arrival of second class mail more often than once a week) receives five gray postals dated the very same day, does Excessive Efficiency or Boondoggling prevail? "Who can help it," the patient, smiling clerk is understood to say, "when the regulations require it?" One card would suffice but instead five are carefully addressed in a Spencerian hand, five clutter up the mail bag on its travels to the forwarding address, five must be assorted by another postal employe, and five must eventually land in the waste basket.

If such a procedure prevails throughout the country, how many unnecessary jobs must have been created and how many additional taxes levied to take care of them? It does put money into circulation. Can perchance the sale of gray postals at one cent each pay for this work and leave a pretty profit besides? Who can tell? The postal service is gradually branching out from its primary duty of expediting the mails. It now amuses and entertains in a harmless way many millions of boys, girls and adults throughout the civilized world with its numerous special issues of ornamental stamps of generous dimensions. Huge quantities of these find their way into stamp books and never pass through the mails! May I suggest that the service practice Excessive Efficiency here, too — stimulate the sale of stamps, especially to the young, by changing the monotonous flavor of the glue. Green 1-cent stamps could taste of mint, red 2-cent stamps of cherry, purple 3-centers of loganberry, brown 4-centers of chocolate and so forth. Think of the pennies the postoffices throughout the land might garner!

Although this consideration is beside the point, it might be well to emphasize here that the transient should lighten the boondoggling work of the postoffice by personally informing his correspondents of any impending change of address.

HONOLULU COMMUTER.

BEFORE AND AFTER—State Forester Tom Tagawa asks Islanders which forest they prefer—the one above in a wild, useless state, or the one at the right which has been rehabilitated for a picnic site. Both are on Kauai.

State forester tells what is being done

By Helen Altonn
Star-Bulletin Writer

State Forester Tom K. Tagawa says "the public should know the facts" about Hawaii's forests and not be misled by such statements as those recently made by conservationist Robert Wenkam.

In a talk before the Hawaii Newspaper Publishers Association at the Kauai Surf, Wenkam warned that Kauai's unique tropical forest is in danger of being wiped out."

"I'm sure his remarks were directed at the experiments in eradicating 240 acres of noxious plants by aerial spraying within the Wailua Forest Reserve where rehabilitation of our forest is taking place," Tagawa said in an interview.

He pointed out that 72,920 acres of the total 223,000 acres of forestry lands on Kauai have moderate to heavy weed infestation.

"Before the so-called unique tropical forest of Kauai can be put to more productive and intensive use, the noxious plants infesting this vast area must be removed," he emphasized.

He also noted, "Noxious weed and plant infestations have reached a magnitude where their control and eradication is no longer confined to individual land owners but is now regarded as a statewide problem."

RECOGNIZING THIS, the Legislature enacted a noxious weed control law which the State Forestry Division and the State Agriculture Department are cooperating to implement.

As the State forester, Tagawa pointed out, he is responsible for the administration of about 912,000 acres of public lands (about 20 per cent of the State) and about 1 million acres of forest lands within the conservation districts that are privately owned (about 25 per cent of the State).

"The State forester has an obligation to assure the public, to the best of his ability, the careful custodianship of these natural resources in the broadest sense," he said.

Because of mounting demands for use of Hawaii's limited acreage, he added, "All resources must somehow be integrated and balanced.

"Most land areas are capable of producing more than one product or service. This is the principle of 'multiple use.' It allows the land manager to select the best combination of uses to maximize the returns."

But Tagawa said, "Multiple use is only a concept, rather than a system of land use, and is only good as the land manager.

"THERE IS LITTLE disagreement on the principle of multiple use or multiple forest value. However, the problem arises when applying the objective to a particular locality. There is then a strong divergence of opinion.

"Will the use of a given area of forest land be determined by the efforts of various pressure groups—or the over-all planning be created by some management authority to achieve the greatest good for the greatest number?"

Tagawa said he is "not worried about the limited land areas. However, I am concerned with what we do with the land.

"This will require imagination and more creative ability and more initiative by the foresters to keep abreast of the resource needs of the present affluent society.

"This means I am not advocating preservation of the status quo as a form of forest management. This is self-defeating. Resources are things people plan to use to satisfy their needs."

HE SAID CHANGES must occur in harmony with "standards prevailing in the minds of the self-made conservation evaluators.

"The big question is what are their standards."

"Therefore, it is a challenge for me and the Division of Forestry to re-evaluate the grand objective of the forest and other land use planning and development within the forest reserve."

Tagawa said the division, under the multiple use concept, "is saving and at the same time rehabilitating Hawaii's forests."

For example, he pointed to the Alakai Wilderness Preserve on Kauai—10,000 acres set aside to protect the flora and fauna—where the division is eradicating the fire-bush "before this aggressive noxious plant takes over."

Also on the edge of the Puu Ka Pele Forest Reserve, on Kauai, he said, "The Division of Forestry is painstakingly restoring the endemic native flora—the "Iliau"—a silversword-like plant."

LETTERS to the editor

Artifical forest

SIR: I came to the Hawaiian Islands as a typical tourist from New York City in 1922, and have stayed here ever since. Honolulu was a charming little garden city: and the Waikiki street car from near my room in the Young Hotel drove across the McCully Street bridge to the Aquarium near the foot of Diamond Head through wild marshes. Here I was delighted to watch the alae, or mud hens, strut about with their brood of chicks, quite oblivious to the trolley whizzing by. I visited all the major islands, intrigued by the Hawaiian endemic vegetation.

The old photographs of Honolulu, particularly those of Waikiki and Diamond Head, appearing in recent issues of the Star-Bulletin, resemble the Islands I first saw in 1922. The photograph of Kauai appearing in the Oct. 1 issue and labeled by Tom Tagawa as "before" (rehabilitation by foresters) corresponds to the unspoiled forests I knew in the early '20s. Such a forest is uniquely Hawaiian, with a unique understory of native mosses, ferns and delicate flowering herbs and shrubs of unexcelled scientific value. In comparison, the photo dubbed "after" shows a biological desert with practically no

PROTEST AGAINST AXIS DEER

6/29/50

Editor The Advertiser:

Will you please publish the following letter which our organization has sent to Mr. Colin G. Lennox, President of the Territorial Board of Agriculture and Forestry? We very much appreciate your interest in this matter and the publicity given to it in your newspaper. Here is the letter:

"Dear Mr. Lennox: At the June meeting of the Hawaiian Botanical Society the membership, by unanimous vote, directed the Executive Committee to draft a protest to the plan of your Board to introduce the axis deer to the Island of Hawaii.

"Our members feel that only the interests of game hunters can be served by moving the deer to Hawaii, and that these interests can be served by the utilization and improvement of facilities to hunters in the area in which the deer are now present.

"It is the considered opinion of well-qualified botanists within the Society that such an introduction to the island of Hawaii will result in irreparable damage to the native Hawaiian flora, in some cases already disappearing, and will result thereby in needless destruction of things of interest, and value, to all scientists and lovers of nature.

"Our Society has had as one of its main objectives, over the years, the preservation of the endemic flora of our Islands. At various times in the past it has voted funds to insure preservation of such flora, and has also taken part in protests in the interest of preserving our floral population, both cultivated and wild. It seems, therefore, very fitting to add our official protest to that of other scientific and public-minded organizations, and individuals who have written to the newspapers and to your Board.

"The members of the Hawaiian Botanical Society therefore desire that this protest, along with the others, be carefully considered at your next Board meeting. We feel that you and the other members of the Board, all representatives of and responsible to the public, will want to reconsider a decision, which, if carried out, would bring about a situation which would be regretted not only by us, who are so interested in preserving our native flora, and by the public, but by the gentlemen of the Board as well."

June 26.

BEATRICE KRAUSS for:
Executive Committee
Hawaiian Botanical Society

VIEW OF SOIL CONSERVATIONIST

Editor The Advertiser:

After being afflicted for the past few months with the mild barrage of rather obviously inspired comment in your columns from various and sundry State-side haoles anent the introduction of Axis deer on Hawaii, it is refreshing, to say the least, to hear at last from people more directly concerned. I refer to Yoshikata Hayashi's letter in your issue of August 1 and George W. Premo's letter in the August 5 Advertiser.

As I am only about ten years away from being a State-side haole myself, I believe that I am sufficiently aware of the amount of genuine Mainland interest in our local game problems to know that all this sudden talk-talk is strictly by request. Which brings up the rather interesting conjecture as to whether the local interests who are requesting this Mainland assistance are:

(a) Afraid that the majority of local people would not give the right answer if asked, or

(b) Believe that we are too dumb to solve our own problems by majority opinion.

Let's hear more from our local people, especially those on Hawaii who are the ones most directly concerned, and have a rest from the long-distance 'experts'.

As a soil conservationist who is interested in preserving the flora as well as the fauna, I would like to make Mr. Hayashi an offer. If he is lucky enough to get some deer over on Hawaii and they become too numerous, just let us know about it. We would be mighty glad to organize some parties of Lanai hunters to go over and help bring the game population back in line, as we have shot ours down to the point that we have had to suspend hunting temporarily to keep from exterminating the small amount of game we have left.

Lanai City, Aug. 5

V. W. THALMANN

AGAINST AXIS DEER

Aug. 3 '50

Editor The Advertiser:

I hope your publication will protect against the introduction of the axis deer on to your incomparable island. Ecologists of outstanding reputation believe that this would be most unwise. Though deeply interested in animals and in natural science, I believe that Hawaii should be kept strictly Hawaiian and not transformed into a glorified zoo.

July 21, 166 Grand Ave.
Englewood N. J.

MRS. RUTH C. NOBLE

KANSAN ON HAWAII DEER

Editor The Advertiser:

I wish to voice my sympathies and support to the naturalists of Hawaii in their opposition of the introduction of the axis deer on the Island of Hawaii.

Colby, Kansas, Aug. 3

8/18/50

MRS. EVALINE HOBL

MORE ARGUMENTS AGAINST DEER-LOOSING

Editor The Star-Bulletin: This is a third letter pointing to the danger of loosing Axis deer from Molokai in the "saddleback" district and forests of the island of Hawaii.

These deer will invade the lush forests and certainly destroy many plants and shrubs.

These native Hawaiian plants are now in tune with their environment. Each kind, according to its special creation by adaptation, covers lava flows, valleys, or ridges.

Thus they very efficiently accomplish three very practical functions.

First by their wealth of fibrous roots and fallen leaves they entrap rainfall, so that it will seep into our artesian basin to be stored there for man's need rather than tumble makai in wild torrents to be wasted in the sea.

Second, they actually entrap and condense fog into raindrops, thus augmenting our artesian water supply in a second way.

Anyone can see this happen off the Saddle road west of the Humuula sheep station. There most of the native mamani trees have killed—as expected—by grazing, but wherever a survivor stands in solitary splendor, the grass beneath is lush and green from the drops of water falling upon it whereas beyond the spread of the branches all is dead and seer.

* * *

The third and most surprising means by which plants increase our water supply and incidentally improve our climate is to "invite" rain and other clouds to pass over them.

Where the ground is bare of plants, a column of hot air rises to mushroom out and push the clouds away. Many a thirst-crazed mariner on a barren waterless island has seen a cloud actually shedding rain come toward him only to split in half, bypass his island, and beyond it coalesce again.

* * *

Most of these Hawaiian plants, beyond their value as traps for water, have little practical value.

We can not eat them. But is an inspirational hymn like "Onward Christian Soldiers" of no value because it gives no food to the body? Plants, like hymns, feed the soul. Surely there is more to life than eating sugar, pineapples, beef and venison.

These inedible plants have an inestimable scientific and esthetic value.

They make these islands just one enormous botanical garden so uniquely famous as to draw to them scientists from as far away as Sweden.

Deprive us of our unique plants, a volcano or two and our kindly Hawaiian people and the mainland tourist may just as well travel no farther than California or Florida.

OTTO DEGENER, Naturalist,
Waialua, Oahu.

Hon. Star Bull 8/6/50

MORE WARNINGS OF DANGER OF DEER TURNED LOOSE ON HAWAII

6/8/5

Editor The Star-Bulletin: The Hawaii Aud[ubon] society wishes to add its note of protest to the [plan] to introduce deer to the island of Hawaii.

That the propagation and activities of the population on the same island could not be [con]trolled was affirmed in an address to the soc[iety] by a wildlife management expert employed by [the] territorial board of agriculture and forestry. [There] there is no reason to believe that any attempt [to] control the deer population will meet with [any] more success.

If such an introduction is carried out, the ter[ri]tory is risking not only the loss of many unique a[nd] valuable plants, but of upsetting the ecologic[al] balance of the island, which is usually precariou[s] at best.

Otto Degener has written of the denudation of forests on Molokai by deer.

The introduction of rabbits to Laysan island is another classic example.

The island of Hawaii may profit by their example, before experiments are made which may result in irreparable damage.

Very truly yours,

H. PAUL PORTER,
President

OPPOSES LOOSING DEER ON BIG ISLAND

Colby, Kans., Aug. 3, 1950.

Editor The Star-Bulletin: Kindly put my name on record as one who opposes the introduction of the axis deer on the Island of Hawaii.

I have every reason to believe that the naturalists of Hawaii know what they are about when they say that this deer will endanger the Hawaii National park, the Hawaiian goose, the flora and fauna in general, and I hereby support their views most highly.

Thanks.

Sincerely,
MRS. EVALINE HOBL

Star Bull. 8/16/50

Stainback, Coke Hunt on Big Isle

Governor Stainback and former Chief Justice James L. Coke left yesterday for a weekend hunting trip on the Big Island.

They will return Monday morning, the governor's office announced.

Hon. Adv. ... '50

By DONALD P. WATSON

Department of Horticulture, University of Hawaii

Hon. Star-Bull + Adv.

Y. Baron Goto, vice chancellor of the East-West Center, has developed his garden with emphasis on the international significance of its plants. He took me over to his Manoa Valley home to see his specimen of Adenium obesum, the desert rose. It is a beauty and surprisingly successful in its rain-drenched location.

A relative of the plumeria from East Africa, I expected it would require a drier, sunnier location. But the keen Baron had fooled it by building a big puka of sand surrounded by lava rocks. With this good drainge the 10-year-old specimen was six feet high and covered with flowers. 6/30/68

Dr. Goto explained that his was a typical Oriental garden, enclosed, private, and quiet for him and his friends. The feature that impressed me the most was the way it reflected his personality and his interests.

Being widely traveled and knowing so much about the peoples of Asia and the Pacific, he has included some very special plants. Nothing has a label but nothing really needs one because he has a personal anecdote to go with each one.

"You see this Hoa Mai," he said, "it is the New Year's tree in Vietnam." Apparently the Vietnamese cut the dormant branches just like a Mainlander does Forsythia early in the spring. Vietnamese force Hoa Mai into flower for New Year's. It has big yellow flowers. For the life of me I cannot locate the scientific name. If any o. knows the name of thi. Ochna-looking plant, please phone and tell me.

"Here is Kwai-Fah (Osmanthus fragrans). Isn't it fragrant? The Chinese use it to perfume tea . . . My

This includes, where necessary, the improvement of county roads from Hana Highway at Halehaku, through Olomalu and the Burns Road to the lower point of the Opana stand.

The logs will be hauled to the old Hawaiian Commercial and Sugar Co. plant on Mokulele Highway just north of old Puunene Airport.

Here, subject to government approval of the land use, Maui Hardwoods will erect a sawmill.

The sawmill will be designed to use the most modern equipment available for hardwoods and will saw 3 million board feet of timber per year.

Lumber produced at the mill will be used in the Islands and some may be shipped to the Mainland.

The 10-year agreement made by Helle with Alexander & Baldwin calls for him to pay on a "stumpage" basis.

Helle, who served on Oahu for two years in World War II as a member of the 5th Seabee Regiment, set up a sawmill for them.

He said he is a third generation lumberman, having started in the business at 11 years of age.

Helle said he hopes to have his sawmill in operation by fall.

"This is a completely new industry for Maui," Cravalho said. "It will bring a new payroll and create new manufactured products.

"It is the result of a community effort by Maui County, A&B, E.M.I. and Helle Lumber Co.

"The initial investment of nearly half a million dollars is a result of this spirit of cooperation, including that of Karl Korte of the State Division of Forestry.

"We can certainly use the 30 additional new jobs created by this venture."

He welcomed the Helles and their four children to Maui. They will live at Waikapu.

Colin G. Lennox, president of the board of agriculture and forestry, in a statement has set forth the factors considered by the board of commissioners in agriculture and forestry in approving the project to introduce deer to Hawaii.

Lennox's statement has been arising from various nature societies predicting dire results if the proposed introduction of Axis deer to the Big Island is carried into effect. Hon. Adv.

LENNOX WRITES that when the board, in its program to increase hunting opportunities, decided to investigate the extension of deer to other islands it studied reports of its technical staff and other qualified advisors on how a deer herd would intergrate itself into the whole scheme of protection, control and use of Hawaii's resources. 6/22/50

Requests in the past to introduce deer to the islands of Hawaii, Kauai and Maui have been deferred until it could be shown that the wild herds of sheep and goats, whose feeding habits are competitive with the deer, could be controlled to a point where they are in balance with plant life.

* * *

IN THE LATTER part of 1949 it became evident on the island of Hawaii that the control of wild sheep and goats is practical under a program started by the board in 1947 of increasing hunter pressure through the opening of trails and roads into the inaccessible areas on the island.

In Hawaii where there are no natural enemies of these sheep and goats except wild dogs the balance necessary to protect vegetation can be effected by man with his rifle.

A study by the board of what deer should be introduced to Hawaii resulted in the selection of the Axis or Molokai deer. The Axis deer prefer dry land conditions where some cover and shade exists. They shun the forest in wetland areas. Their food habits are competitive with sheep and goats. Their major feeding is browsing on shrubs and herbaceous plants although they feed to some extent on grass and weeds eaten by cattle.

* * *

CRITICISM THAT the introduction of the deer to Hawaii would be a potential danger to watersheds has been refuted in Lennox's statement. He finds that the deer do not find the dense underbrush and wet conditions of a Hawaiian watershed conducive to their natural development. In all forest areas where the deer have been observed to make any entry the only damage observed is the occasional barking of trees where the bucks rub the velvet off their horns.

As far as the deer being a pest to agriculture, Lennox reports that only twice in 21 years have the deer caused any damage. Damage to pineapples on Molokai was reported in 1941 and 1944. Both times the deer entered the pineapple fields and broke off the points of tender leaves to eat the base or eat the very young fruit. The plantation reports the damage was negligible.

THE BOARD ALSO sent out a questionnaire to 32 plantations, ranches and large estates on the island of Hawaii asking whether or not they would favor the establishment of a herd of deer in the Saddle between Mauna Loa and Mauna Kea.

The questionnaire, sent out in July, 1949, revealed that 13 were opposed to the move, 7 definitely in favor and 12 had insufficient interest in the problem to answer. Since failure to vote on a subject is accepted as a vote in the affirmative a majority apparently favored the proposed move.

Lennox said the entire question has received the detailed study of the board for more than a year and has been brought up for discussion in its various ramifications at five meetings during the past year.

Ed. Artificial 1968

SIR: I came to the Hawaiian Islands as a typical tourist from New York City in 1922, and have stayed here ever since. Honolulu was a charming little garden city; and the Waikiki street car from near my room in the Young Hotel drove across the McCully Street bridge to the Aquarium near the foot of Diamond Head through wild marshes. Here I was delighted to watch the alae, or mud hens, strut about with their brood of chicks, quite oblivious to the trolley whizzing by. I visited all the major islands, intrigued by the Hawaiian endemic vegetation. Hon Star Bull

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I feel the taxpayers of Kauai have much justification in deciding what type of island they prefer, even if their choice may not be a wise one. If the Federal Government wants unspoiled tracts of Kauai — are any left? — for a National Park, the Government should remove local opposition to such a project by paying a more than fair price for the land. But for the people of Kauai to wreck their greatest asset by exterminating the kamaaina flora for "damn haole" plants so that neither the National Park Service can use such a glorified weed patch nor the sophisticated tourist admire it as distinctly Hawaiian, is like cutting off one's nose to spite one's face. Kauai without the tourist will be like Lanai without the pineapple.

DR. OTTO DEGENER

Dupl. to Survival Service Com.

Jade vine, such as that pictured growing over a trellis in the garden of the Russell E. Calhoun home in Foster Village, is grown by air layering. Hon Star Bull

Mrs. Calhoun brought the vine over from her former Kailua home about a year and a half ago, and has since raised it to grow over a trellis. 3/23/60

The plant, which produces racemes or stems four to five feet long, blooms from February until August.

The crescent-shaped flowers are delicate shades of blue-green, but seldom last more than a day after being picked.

Mrs. Calhoun describes the garden as "homemade" but it is evident that this handsome spot effectively adds charm to the adjoining lanai and living room.

Flowers of the jade vine are variegated shades of blue and green. The darker raceme or stem on the left has the small buds. The full blooms, right, may be made into a maunaloa-style lei.

A NEW FOREST—Dry eroded land on West Kauai is planted with pine trees which eventually will provide better watershed and erosion control.

moisture-holding understory of interesting plants. Instead of being Hawaiian, it is a poor imitation of a Mainland forest, just about as artificial as a plantation field with pineapple plants set out in rows.

I feel the taxpayers of Kauai have much justification in deciding what type of island they prefer, even if their choice may not be a wise one. If the Federal Government wants unspoiled tracts of Kauai — are any left? — for a National Park, the Government should remove local opposition to such a project by paying a more than fair price for the land. But for the people of Kauai to wreck their greatest asset by exterminating the kamaaina flora for "damn haole" plants so that neither the National Park Service can use such a glorified weed patch nor the sophisticated tourist admire it as distinctly Hawaiian, is like cutting off one's nose to spite one's face. Kauai without the tourist will be like Lanai without the pineapple.

DR. OTTO DEGENER

Selection of trees

SIR: Dr. Otto Degener's interesting letter in the Oct. 10 Star-Bulletin deserved comment. I am sure we all agree with his desire to preserve as much of the old Hawaii as possible.

Degener complains bitterly about foreign trees being used by the Board of Forestry in their reforestation work. About 50 years ago, under the leadership of the late C. S. Judd, native trees were tried. The two that looked like the most promising were the lehua and the koa. The lehua proved to be too slow growing to be of practical use, while the koa, except on the recent volcanic lands of Hawaii, proved disappointingly short lived. At that time the board was operating on a very slim budget and much reforesting had to be done with large areas denuded through the ravages of goats and cattle. It was felt particularly important to cover erosion scars where the soil on steep slopes had been washed away, and for this, they had to use trees that would grow rapidly in what was an unfavorable environment.

Admittedly the question of the best trees to plant is an open one, and there is plenty of room for study and research. If Degener can suggest some Hawaiian trees that would be of promise, he would be doing the State a very great favor.

OLIVER H. EMERSON

Seit Tagen ist das Volk rebellisch. Unruhe hat den überfüllten Bienenstock erfaßt. Weithin ertönt erregtes Summen. Keines der sonst so fleißigen Tiere denkt an vernünftige Arbeit. Aufbruchstimmung.

Dann ist die Stunde der Völkerwanderung gekommen. Die Hälfte des Volkes ergießt sich wie ein Lavastrom ins Freie. Die Königin schleppt ihren übergroßen Leib zum Schlupfloch, breitet nach Monaten fleißigen Eierlegens wieder die Flügel aus und wird mitgerissen. Sie suchen sich ein neues Mutterland. Platz dem Nachwuchs — ist die Devise.

Biologist Denies Deer Harmful

Axis deer released on the Big Island will not cause damage to other animals or plants, State biologist Lyman Nichols testified yesterday.

Nichols said in Circuit Judge Allen R. Hawkins' court that he had made an intensive study of axis deer on Lanai before being stationed on the Big Island.

RANCHERS ARE suing to prevent the State from releasing the deer on the slopes of Mauna Kea. Final arguments in the case will be heard at 1:30 p.m. tomorrow.

The State Department of Land and Natural Resources wants to take the deer from Lanai to the Big Island to provide a new hunting area.

Ranchers claim the deer will damage vegetation and bring disease to livestock.

JIM P. FERRY head of the Department of Land and Natural Resources, testified that he has authorized confining the deer to a 300-acre preserve—not releasing them all over the island.

Michio Takata, director of the Division of Fish and Game, recommended the move.

Circuit Judge Allen R. Hawkins will decide in mid-July whether to issue a permanent injunction against the transplanting of axis deer on the Big Island.

Big Island Rancher W. H. Greenwell is carrying on the fight to prevent the release of the deer on his island. He obtained a temporary injunction which bars the Department of Land and Natural Resources from catching the deer on Lanai and transporting them to the Big Island.

GREENWELL contends that the deer will spread diseases to cattle and other livestock, as well as eat up ranges, destroy forests, coffee and macadamia nut groves, and other vegetation.

Deputy State Attorney General Andrew Lee argued Monday that Hawkins should dissolve the temporary injunction. He told the judge that the State had the right to release the deer, because they would harm land of private property owners.

* * *

LEE ADMITTED that if the deer were released, there might be some harm to private property. However, he said this wasn't a matter for the courts until the actual damage occurred.

Hawkins asked Clause whether he was opposed to the release of other creatures, than axis deer. He posed this question:

"Suppose the State was planning to release rattlesnakes?

"Or suppose they were going to release tigers?"

* * *

CLAUSE CONCEDED that the State had the right to move animals around. However, he said that if it could be shown that such release was harmful to private property owners, it would be unlawful.

Judge Hawkins has set Monday, July 20, as the date for hearing arguments on a motion for a permanent injunction. He denied Lee's motion to dissolve the temporary injunction.

by specialists, rather than crude gathering or 'hay-baling' of all plants in sight," we consider a half-truth. We workers today feel frustrated when investigating a species to find that the type specimen possesses only the briefly written "Sandwich Islands" on the foxed, brittle label. How useful and fascinating it would be for us if the precise locality on the definite island had been recorded! The practice of collecting the same species time after time - evidently termed contemptuously as "hay-baling" - not only will give future, curious workers a more definite record as to the distribution at a precise date of various taxa, it will make accessible to botanists for research and teaching a wealth of useful material, perhaps of the same species but very unlikely alway of the same taxon in an archipelago noted for the "variability of the species." The kane writer's gifts of Hawaiian plants to his alma mater in Massachusetts are to this day a considerable help as illustrative material not only for Taxonomy but even Freshman Botany courses. With this in mind, since 1922 he has likewise scattered duplicate specimens by sale and gift to the University of Michigan and other institutions of learning throughout the World. Our aim, living in a fast-vanishing endemic flora, is to make hay while the sun shines, and we advise our amateur and professional colleagues to do likewise. Is it wise to lull them into complacency?

Were our public herbaria deprived of the riches collected by such "amateurs" as the horticulturist Douglas; Chaplain Diell; planter Baldwin; Director Brigham and the tubercular college youth Horace Mann, Jr.; physician Hillebrand; rancher Munro; accountant Topping; and the youngster Rock who studied to enter the priesthood and never took a formal college course in Botany; what a vast hiatus would prevail in our faulty knowledge of the Hawaiian flora! When did the amateur Rock, for instance, become a specialist? No, the specialist sorely needs the help of amateurs of whom the present day can list such names as Brash, Bush, Desha, Kato, McGuire, Obata, Pang, Pekelo, Roe and many others.

As it is impossible to publish authoritatively about any group of plants whatsoever without familiarity with their literature, we herewith add a Supplement to "Some Recent References on Hawaiian Pteridology" appearing on page 123 of Dr. Wagner's article in the November Newsletter. As our work is incomplete, we hope our readers will contribute further supplements with the aim not only of getting but for evermore keeping Dr. Merrill's famous bibliography of species nicknamed "The Pink Slips" complete at least so far as the Hawaiian Islands are concerned. To do so, the species mentioned in these articles must be transcribed in the Merrill method and the transcriptions intercalated with their fellows reposing in the Marie C. Neal Herbarium of the B. P. Bishop Museum.

Supplement 1 to Some Recent References to Hawaiian Pteridology

Caum, E. L., Notes Fl. & Fauna Lehua & Kaula Isl. Occas. Pap. B. P. Bish. Mus. 11 (21): 1-17. 1936. [About Doryopteris decip-

LIHUE, Kauai — The Kauai Public Library, which consisted of only the Rev. J. M. Lydgate's personal book collection when it all began in 1900, will have the dedication and open house tomorrow for its new $566,000 home.

Library service has been suspended this week as a moving contractor, the staff, Friends of the Library members, and other volunteers labored to move over from the 45-year-old rock and concrete building on Rice Street.

The new library building is at the edge of the Molokoa residential subdivision, on the other side of Hardy Street from Elsie Wilcox Elementary School — and across the Lihue Civic Center from the old library location.

It is a striking design by architect Stephen Oyakawa, with an upswept roof and vast expanses of tinted glass. The air conditioned and carpeted building includes a room for the Hawaiiana collection and a meeting room with seating for 250.

When the minister of the old Lihue Union Church moved his books in 1900 into the Sunday School rooms, he also used his surrey to take books out to the community.

This horse-and-buggy traveling library is the forerunner to the bookmobile which now serves the schools of the island and remote communities.

Pine Hybrid Cleared for Shipment

A promising hybrid pineapple as become the first pineapple besides the commercial Cayenne variety to be cleared for shipment as fresh fruit without fumigation treatment for fruit fly infestation.

The implications for Hawaii's growing M a i n l a n d market for fresh pineapple are highly favorable.

PREVIOUSLY, fresh-fruit shipments have been limited to the smooth Cayenne variety which is Hawaii's predominant commercial pineapple.

The hybrid, developed by the Pineapple Research Institute and known as Number 53-116, has a longer shelf-life than the Cayenne, an important quality in fresh fruit.

It is also a good wintertime fresh fruit, tasting sweeter than the Cayenne at a time of the year when acidity usually builds up because of less sunshine.

THE HYBRID'S clearance followed cooperative field and laboratory work involving the U.S. Department of Agriculture, the Fruit Fly Investigations Laboratory at the University of Hawaii, PRI, and the Pineapple Growers Association of Hawaii.

It was established that hybrid 53-116 offers no greater risk to Mainland agriculture than the Cayenne presently cleared for fresh-fruit shipment.

A spokesman for the Pineapple Growers said the waiver of USDA treatment requirements for hybrid 53-116 gave hope that other promising hybrids will be considered for clearance in the future.

Von HANS W. LENHARD
und HERMANN ARENS

München, 16. Oktober

Wird es bald einen Impfstoff gegen bösartige Geschwülste geben? Zwei deutsche Forscher, Privatdozent Dr. Frederic Vester (43) vom Max-Planck-Institut für Eiweißforschung in München und sein Mitarbeiter, der Chemotechniker Jürgen Nienhaus (40), erklärten BILD: Wir haben aus den Eiweißstoffen von Misteln ein wirksames Präparat gegen den Krebs entwickelt.

Das zeigte sich jedenfalls im Tierversuch. Jetzt bereiten wir die Produktion des ersten Spezialimpfstoffes gegen bösartige Geschwülste bei Menschen vor.

Chemotechniker Nienhaus hat das neue Mittel am italienischen Tumorzentrum Varese an Mäusen erprobt. Den Mäusen waren Krebsgeschwülste überpflanzt worden.

Das sensationelle Ergebnis:

● Der Impfstoff bewirkte eine 90prozentige Hemmung des Krebswachstums.

● Wurden die Tiere nur fünf Tage vor der Krebsüberpflanzung mit dem neuen Mittel geimpft, wies ihr Körper die fremde Geschwulst entweder ganz zurück oder die Wachstumsgeschwindigkeit des Krebses lag weit hinter dem Erkrankungstempo bei ungeimpften Tieren.

Die Wissenschaftler ziehen daraus den Schluß: Die Eiweißstoffe ihres Mistelpräparates mobilisiere die natürliche Körperabwehr gegen den Krebs. Sie wirken auf den in jedem Organismus vorhandenen Krebshemm-Mechanismus ein.

Nienhaus zu BILD: „Das geschieht wahrscheinlich über die sogenannten Thymusdrüsen. Sie spielen eine Schlüsselrolle in der Abwehr von Krankheiten. Sie zeigten im Mäuseversuch unter der Einwirkung unseres Mittels eine zwei- bis dreifache Vergrößerung. Das bedeutet, daß ihre Funktion stark angeregt war."

Privatdozent Vester: „Beweisen können wir den tatsächlichen Wirkungsmechanismus unseres Präparates noch nicht. Wir können uns vorerst einfach nur auf die sichtbaren Erfolge unserer Tierexperimente stützen.

Ungeklärt ist nach Meinung Dr. Vesters auch die Frage, ob das Mittel a l l e Arten von Krebserkrankungen verhüten hilft. Oder ob es nur gegen bestimmte Geschwulstformen wirkt.

Die beiden Wissenschaftler wollen die Ergebnisse ihrer sensationellen Entdeckung in den nächsten Wochen veröffentlichen.

YES, THANK YOU; WE LOVE FERNS

Otto Degener & Isa Degener

Dr. W. H. Wagner, Junior's article on "Pteridology in Hawaii," appearing in the Newsletter of the Hawaiian Botanical Society 2: 117-123, 1963, will stimulate workers to renewed industry. There are three statements expressed to which we personally do not subscribe. First, to quote: "I do not agree with propaganda that the Hawaiian flora will soon disappear and that 'all is lost'." We believe ephemeral malihinis tend to lack the vision former and present kamaainas gradually acquire. Dr. J. F. Rock, not long before his passing, remarked that his recent visits to his old collecting grounds were like attending a funeral - so many of his plant friends had disappeared. How rapid Dr. Wagner's "soon" is for definite areas is debatable. "Soon," for example, caught up years ago with the dry native forest and Lipochaeta plains of West Molokai where the kane writer gathered such plants as Canthium, Gardenia, Nestegis, and Sesbania in 1928, all now represented in herbaria as vouchers to give an inkling as to what the flora there was like. Even in 1928, he failed to unearth the West Molokai Kokia cookei, at that time already extinct in the wild state. "Soon" is just around the corner for the Kanepuu forest, overrun with axis deer, of Lanai; the belt of forest southeast of Ulupalakua, Maui; and the Sesbania colony of Kaena Point, Oahu. "Soon" is somewhat deferred for the flora peculiar to Kaala, Oahu, where government buildings now stand; and the Waikamoi rain-forest of Maui where the endemics are being bulldozed aside for the planting of exotic timber trees. We fear how soon is "soon" for the native Hamakua forest of Hawaii whose remnant Walker, Tomich and Mendes at the head of the local Civic Improvement Committee are valiantly striving to save from being engulfed by the planting of sugarcane; and for square miles of native forest on the same island which are being bulldozed for the planting of Fraxinus uhdei. To dub as "propaganda" our efforts in behalf of true Conservation, not Exploitation for the purpose of garnering dollars and cents, is unfortunately a distinct disservice to the biotic and scenic welfare of our State.

Second, we do not believe "that there are really three different species of holly-fern, Polystichum, at the top of Mauna Haleakala in Maui, not two." We have studied this assemblage of plants repeatedly in the field, without haste while living among them near Holua Cave, and in several local and foreign herbaria. The two classical species form swarms of hybrids of almost all possible intergradations. To mistake one of these, as we mentioned in our Flora Hawaiiensis 1/18/63 and 3/15/63, as a distinct species is not difficult at all.

The third statement that "the time is now nigh for collecting

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Vote Asked on Axis Deer Transplant

A referendum should be held to determine whether Big Island landowners want axis deer introduced on their Island, a conservationist said last night.

Richard H. Davis, who has observed deer on Molokai, said as far as he knows, no poll has been taken.

HE TOLD the Hawaii Audubon Society that he is opposed to the introduction of the animal to the Big Island because the deer will harm the Island's vegetation.

He also was concerned about what controls the State had in mind to prevent the population of the deer from getting out of hand.

DAVIS urged the group to write to Gov. John A. Burns requesting him to hold up the introduction of the deer.

The State Fish and Game Division last week postponed the shipment of axis deer from Lanai to the Big Island.

Burns asked for the delay so he could review the situation.

The Hawaii Audubon Society has concurred with the Governor's action.

Pigs and Goats Safe While Deer Are Being Hunted

Hunting of pigs and goats will be suspended in portions of the Puu Ka Pele and Kekaha game management areas on Kauai during the blacktail deer hunting season, Saturday through Oct. 26.

The area is bounded by the Kokee State Park on the east, a portion of the Kekaha game management area on the south, Na Pali Cliffs at the 1,400-foot elevation on the west, and the western portion of Unit B on the north.

The State Fish and Game Division said the suspension is for safety reasons because of a large number of additional hunters in the area.

Maps of the area affected and further information may be obtained from the Fish and Game Division.

LEAVES OF "SPANISH NEEDLE" USED IN HAWAII AS TEA

MAIL REPORT OF SCIENCE SERVICE, WASHINGTON, D. C., July 23, 1932

By Science Service

HONOLULU, July (S.S.).- Leaves of plants of the same genus as the common American weed known as "Spanish needle," which adorn the garments of picnickers with disagreeably clinging pronged seeds, were used by the natives of Hawaii for tea, reports Otto Degener, naturalist of Hawaii National Park. It was known by the native name kokoolau.

To make it, the Hawaiians put some of the dried leaves into a gourd or wooden vessel and added water, then dropped in a heated stone, keeping the water simmering until the tea was judged to be strong enough. It was then strained through a coco fiber mat, and drunk either plain or sweetened with the juice of the native sugar-cane.

By DONALD P. WATSON
Department of Horticulture
University of Hawaii

It is up to those of us who believe that Plants are for People' to use natural materials for holiday decoration.

Instead of buying ready-made plastic or some artificial greenery, look around and see what you can find. If you don't have a good source in your own garden, take the family on a collecting trip. Don't wait until Christmas.

Different plants' parts are maturing all through the year. So when you find what you want, gather plenty of it, twice as much as you think you need. Decorations made with fewer varieties of natural materials are usually more outstanding.

Woodrose capsules, pods from the African tulip tree or pods of koa haole are usually plentiful. Consequently, they are used more often than less common plant parts. If you get them partly green and hang them upside down to dry in a hot place they will be less shrunken and more free of fungus.

Pods of lipstick plant (Bixa orellana), showers (Cassias), orchid trees (Bauhinias), Jacaranda, Cutifolia, Lotus, bracts of Heliconias, Calathea, arrowroot (Maranta arundinacea), Crepe Ginger (Costus speciosus), mahoe, ti (Sweetenia); branches with dried leaves, sedges, sugar cane tassels, sheaths (boats) and fruit of many of the palms; leaves and fruit of sea grape (Coccoloba uvifera); Uki (Cladium) grass sometimes called Pele grass because it is common near Kilauea Volcano; copey (Clusea rosea) are but a few of those that often are available. Don't be limited by what someone else has used. Try others.

Christmas berry (Schinus terebinthifolius) is especially good. It is perhaps a little late to harvest it for this year. If you can find some with berries that are still red and the berries don't fall, cut it, remove the leaves and hang it upside down to dry in fresh air in a shady place.

What you use will depend upon what is available. Collecting is forbidden in national and state parks. Often it is not difficult to get permission from private homeowners. What you collect will depend upon what is plentiful this year or what is ripening at the time you go collecting.

After thoroughly drying, dip the pods or pieces in a bath of warm, soapy water to clean them and destroy any insects. Soap ahead.

With this Marshall modest hu Graham a then he a gentle mar ing aroma at some fr with us."

DOUBLE BOUGAINVILLEA—The Friends of Foster Garden will offer more double bougainvillea for sale at this year's Garden Fair than they did at the last. Mrs. Lowell D. Funk, fair chairman, looks over some of the "Doubloon" and "Carmencita" varieties which were quickly sold last year. The fair will be from 9 a.m. to 3 p.m. Saturday on the upper level of the garden, with an auction at 2 p.m. Proceeds will be used to import rare plants for permanent display at the garden.

wauke - Broussonetia papyrifera. The bark was made into tough tapa used for clothing, bed clothes; it lasted longer than mamaki tapa
wauke-malolo - A wauke used medicinally
wawae-iole - Lycopodium cernuum. Nine other species of clubmoss also bear this name. ((We doubt it unless they resemble a rat's foot)). Syn huluhulu-a-iole, hulu-iole
wehiwa - taro var; syn. wewehiwa
wehiwa - sweet potato var
welowelo-la - var of taro; syn. ala-o-puna
welu ahi - ball of tapa cord used to carry fire
wewehiwa - wehiwa, a taro
wi - Spondias dulcis.
wi - Tamarindus indica; syn. wi-awaawa
wilelaiki - Christmasberry tree, Schinus terebinthifolius, so-named because Willie Rice wore a hat lei of the red berries during political campaigns
wiliwili - Erythrina sandwicensis
wiliwili-haole - Erythrina variegata var. orientelis

NEW BOOKS IN HAWAII

Flora Of Hawaii

FLORA HAWAIIENSIS, BOOK 6; by Doctors Otto and Isa Degener. Published by the authors, Mokuleia Beach, Waialua, Oahu, Hawaii, at $10.

Reviewed by L. W. Bryan, former Deputy State Forester

This is the sixth book of this valuable flora which includes not only native but introduced plants found in Hawaii. Doctor Otto Degener began his botanical work in Hawaii in 1922 and has spent the past 42 years in botanizing here in Hawaii and other parts of the tropical world.

He has authored a number of books included among which are: "Ferns and Flowering Plants of the Hawaii National Park (where he was park naturalist in 1929), published in 1930; Last Cruise of the Cheng-Ho, 1943; Naturalist's South Pacific Expedition, 1945, etc.

During 1925-27 he was botanist at the University of Hawaii.

He was joined in this improtant work by his wife, Dr. Isa Degener, after their marriage some few years ago. Doctor Isa Degener is a botanist in her own right and this wife-huband combination makes an excellent team.

Book 6 contains more than 200 pages and accurately describes more than 170 different plants representing 79 different families. Like former volumes this one is printed on heavy, glossy, durable paper which will last a long time. Each plant is well illustrated on one side of the sheet and the description is shown on the other. It is in loose leaf form so that additions may be made to each family as new sheets are published.

Of interest and indicating a significant honor is a reproduction on the Front Piece of the LINNE MEDAL awarded to Doctor Otto Degener by the Swedish Academy of Science in 1962 for his outstanding contributions in the field of botany.

The Old and the New in Featherwork

The Bishop Museum is planning another exhibition of the featherwork of Johanna Drew Cluney.

The display will feature the adaptation of an ancient art to modern articles of dress.

Because she is a modern featherworker, Mrs. Cluney often has trouble explaining her art to her friends.

She handles her feathers in the manner of the ancient featherworker.

She sews them on backings made of modern material instead of tying them onto a backing made of fine olona twine.

The feathers used are the plumage of birds to be found in the Pacific today.

If she wants a certain color, she dyes the feathers, just as her forbears dyed the chicken feathers.

Instead of making vegetable dyes, Mrs. Cluney uses modern chemical dyes.

The feathers are selected according to color and size for a certain design.

They are sewed on, one by one, just as the old-time feather worker tied them one by one.

Feather leis for the neck or the hair are the only articles made by Mrs. Cluney in imitation of those made by the ancient featherworker.

She will not dabble in making kahilis or feather capes, the insignia of rank to the ancient nobleman.

She makes feather leis for men's and women's hats; fans for milady and headgear which looks like a coronet.

Her work is distinctive because Mrs. Cluney is an artist. She calls her designs "inspirations" and says she cannot make an article until she has an inspiration.

She selects matching feathers and colors to make an article of gleaming beauty comparable to the capes made by the ancient Hawaiian.

The cape and lei of the monarchy were the crown jewels of the nobility.

The Hawaiian had no gold, silver or jewels. He took infinite pains to make wonderful garments which gleamed and shimmered like gold inset with jewels.

Beautiful featherwork enhanced the distinguished nobility.

It gave the men and women hanohano, a term which Hawaiians used to express "handsome appearance."

Mrs. Cluney says her work is done for the same purpose, to distinguish the handsome men and women of today.

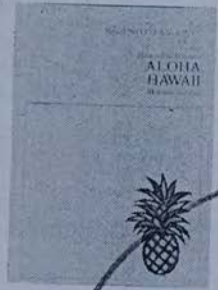
Sunday Star-Bulletin 12/31/1967
+ Advertiser, Honolulu

RIEF

ent, W. Storrs Lee has collected here 54 narratives — historical chronicles, poems, eyewitness accounts, and fiction — which bring the Islands alive for today's reader. With an unerring ear for the fascinating, the dramatic, the illuminating detail, he has gathered writings by such diversified men as Mark Twain, Henry Adams, Charles Nordhoff, Padraic Colum, Gerald Manley Hopkins, Rupert Brooke, Herman Melville, W. Somerset Maugham, and Alfred, Lord Tennyson,

each with a highly personal view of the fabled Islands.

"Not an anthology in



best for the last. Blessed with beauty and caressed by wind and wave, this island paradise glistens in the Pacific, beckoning to tourists the world around to come enjoy her bountiful delights. And now, to bring the promise of a dream vacation closer and to guide those fortunate enough to be planning a trip, Horace Sutton has written this up-to-the-minute introduction to the Hawaiian Islands.

"With his accustomed style and practiced eye, this master travel writer captures the special wonders of the Aloha state, evoking the not-to-be-missed sights of breathtaking loveliness and the fascinating history and

thor, who some years ago was librarian at Schofield, then at Hickam. She now lives in St. Louis.

ALOHA: POLYNESIA, Hawaiian Poems, by Joseph Joel Keith. (Manyland). $4.

HAWAII, by Alma E. Thoene. With photos. (Watts). $2.65. An interesting survey for young readers.

POISONOUS PLANTS OF HAWAII, by Harold L. Arnold, M.D. (Tuttle). $2.50. In which a prominent Honolulu physician discusses more than 90 varieties of plants growing in Hawaii which were deemed toxic in some way. Illustrated.

GEOLOGY OF THE STATE OF HAWAII, by Harold T. Stearns. (Pacific Books, Palo Alto). $8.50. A comprehensive book written for both professionals and laymen.

INTERNATIONAL FOOD FLAIR, by Ruth Gilmour. (Pageant). $6. An epicurean adventure through many lands for the gourmet and the beginner, including 25 pages on Hawaii.

by D'Egerny

Botanist fears for Big Isle

VOLCANO, Hawaii — An authority on the plant life of the Big Island's volcano country wants a "fool-proof" fence built to protect it from the axis deer.

Dr. Otto Degener of Volcano and Honolulu has urged the State Supreme Court to delay introduction of the high-leaping game animal to the island until a fence can be erected to protect the national park's flora.

And he is calling on conservation groups as far away as the Mainland to help finance it.

A plan by the State Fish and Game Division to fence in the deer on Mauna Kea for a period of adjustment before deciding on their general release may ease Dr. Degener's fears somewhat.

Division director Michio Takata told the Star-Bulletin yesterday the deer will be confined in a 300-acre pen during extensive testing for disease and adaptability.

Dr. Degener, a former naturalist for the national park and botany instructor at the University of Hawaii, is currently working on Volume 8 of "Flora Hawaiiensis," an extensive catalog of native plant life, under auspices of the National Science Foundation.

He is a collaborator in Hawaiian botany for the New York Botanical Garden and has traveled extensively in the South Pacific to study plants.

In a tract he recently issued to conservation groups and national parks on the Mainland, he says Hawaii is far more interesting from a biological standpoint than the Galapagos, site of Darwin's famed researches, because it is more isolated and harbors a far greater number of endemic, or native, plants.

With few exceptions, he said, native Hawaiian flowering plants are found no place else on earth, and the same was true of insects and birds.

This interdependence built over millions of years, he said, has been seriously upset since the coming of the white man.

There had been no herbivorous animals before, and plant life had no immunity from depredations of cattle,

flora if fauna is introduced

goats, sheep and now deer.

Where permitted to roam he went on, native plant cover — and even whole forests — have disappeared.

Under growing population pressures, Dr. Degener said, the national parks are about the last refuges of the endemic ecology.

He said he has no quarrel with the court's position that introduction of the deer to State-controlled areas would promote hunting.

But he said he fears the ruling, as it stands, "will do irreversible damage by browsing and trampling to the native plants of Hawaii Volcanoes National Park."

Other Big Island naturalists have protested the release.

One of them, Dr. Roger Baldwin, said the experience on Molokai and Lanai of deer appetites is not valid here because they stayed mainly in kiawe forest.

If they should find the Big Island's mamane palatable, he said, they would destroy many other native species of ground cover as well because of the interdependence of the plants.

A-2—MidWeek October 24, 1984

Q: It's still hard for me to believe all the ridiculous statements uttered by James Watt when he was Ronald Reagan's secretary of the Interior. Did he ever really understand what his job called for? — Tim C., St. Louis, Mo.

JAMES WATT

A: *"My responsibility," Watt once insisted, "is to follow the Scriptures. Which call upon us to occupy the land until Jesus returns."*

NEWSLETTER

THE CONSERVATION COUNCIL FOR HAWAII

P. O. Box 2923
Honolulu, Hawaii 96802

Vol. 6: 3 February 1967

GENERAL MEETING

The next General Meeting will be held at Agee Hall, H.S.P.A. Experiment Station, Keeaumoku St., on Tuesday, February 21. At 7:30 p.m., a short business meeting will be held to consider resolutions proposed by the committees and members. The following program will be presented at 8 p.m.

FEDERAL FUNDS, STATE PLANS, AND CONSERVATION. Mr. George Moriguchi, State Planning Coordinator, and Mr. Shoji Kato, Senior Planner, Department of Planning and Economic Development, will speak on SCORP (Statewide Comprehensive Outdoor Recreation Plan) and explain this and many related plans now being prepared by State agencies. A general discussion period will follow the presentation, so be prepared to ask pertinent questions.

****

The February general meeting will consider resolutions for transmittal to the Legislature and government officials. Any members who are interested in submitting a resolution should discuss it with the pertinent committee chairman or send it directly to the President. The Constitution requires that resolutions be submitted to the Executive Board before submitting them to the general membership. The Executive Board will be meeting on February 14 and proposed resolutions must be sent in before that date. Mailing address is P. O. Box 2923, Honolulu, Hawaii 96802.

****

Executive Board Members and Chairmen of Committees are reminded that a meeting will be held at the State Archives at 4 p.m., Tuesday, February 14. No other notices of this meeting will be sent.

NEWS NOTES

Board Changes: Dr. E. Alison Kay was elected to the Executive Board, replacing Dr. Dieter Mueller-Dumbois who has gone off to Ceylon.

HAWAII VOLCANOES NATIONAL PARK

INFORMATION ON SOME OF THE HIKING TRAILS IN THE PARK

Thurston Lava Tube - Every visitor should allow time for this easy 15 to 20-minute walk. The paved trail leads down through the lush tree fern jungle, through a lighted 400-foot lava tube, and back up to the parking area.

Devastation Trail - Another easy walk is this boardwalk trail connecting Puu Puai and Kilauea Iki Overlook parking lots. It leads you 0.6 mile through the area devastated by the 1959 Kilauea Iki eruption. Numerous interpretive signs explain the features along the way.

Bird Park Trail (Kipuka Puaulu) - This is an "island" surrounded by more recent lava flows, through which winds a mile-long, self-guiding nature trail. You walk through a unique community of Hawaiian vegetation, unlike that seen anywhere else in the park. Many small, brightly colored birds may be seen in the tree tops, explaining why the area is also called "Bird Park." Allow at least 1 hour for the walk.

Halemaumau Trail - "The World's Weirdest Walk" is a description used by many to describe this 3.1-mile trail which leads across Kilauea Caldera. This trail offers one of the finest volcanic experiences in the park. Starting at Park Headquarters, the trail leads you down through the heavy forest and out onto the caldera floor. It is a self-guiding nature walk--make sure that you pick up a guide pamphlet at the beginning of the trail. Allow at least 2 hours for a one-way trip.

Kilauea Iki Trail - Some visitors feel that this trail rivals the Halemaumau Trail in providing a real feeling of the volcanoes. Starting at Park Headquarters, the trail parallels the Crater Rim Road for the first 0.8 mile, then drops down onto Byron Ledge and into the crater itself. After leading across the floor of the crater, the trail winds up and meets the Crater Rim Road directly across from the entrance path into Thurston Lava Tube. Keep in mind that it is 400 feet down into the crater, and it can be a strenuous walk out.

Steaming Bluff Trail - This trail branches off the Crater Rim Trail and joins the Halemaumau Trail, leading you along the top of Kilauea Caldera by a series of steaming earth cracks. It is an interesting side-trip when walking between Kilauea Military Camp and Park Headquarters.

Sandalwood Trail - Beginning at the junction of the Crater Rim Trail and the Steaming Bluff Trail, this walk will take you down the side of Kilauea Caldera to join the Halemaumau Trail. It provides an interesting view of the caldera and an opportunity to see the famous Sandalwood trees.

Spatter Ridge Trail - This trail begins at the Byron Ledge Overlook parking lot, runs along the top of Kilauea Iki Crater, and joins the Kilauea Iki Trail. It passes through an area partially devastated by the 1959 Kilauea Iki eruption.

Byron Ledge Trail - Branching off the Halemaumau Trail, climbing up Byron Ledge, and leading back down to the Halemaumau Trail is the Byron Ledge Trail. Its entire length is 2.5 miles and makes a useful connecting link when walking from one crater to the other. The trail provides an alternate return route across the caldera.

Crater Rim Trail - This is an 11.3-mile trail leading all the way around the caldera and passing through dense fern jungle and arid sand wasteland. It intersects with other trails at a number of points along the way, making it possible to hike selected portions of the trail.

HIKING SUGGESTIONS

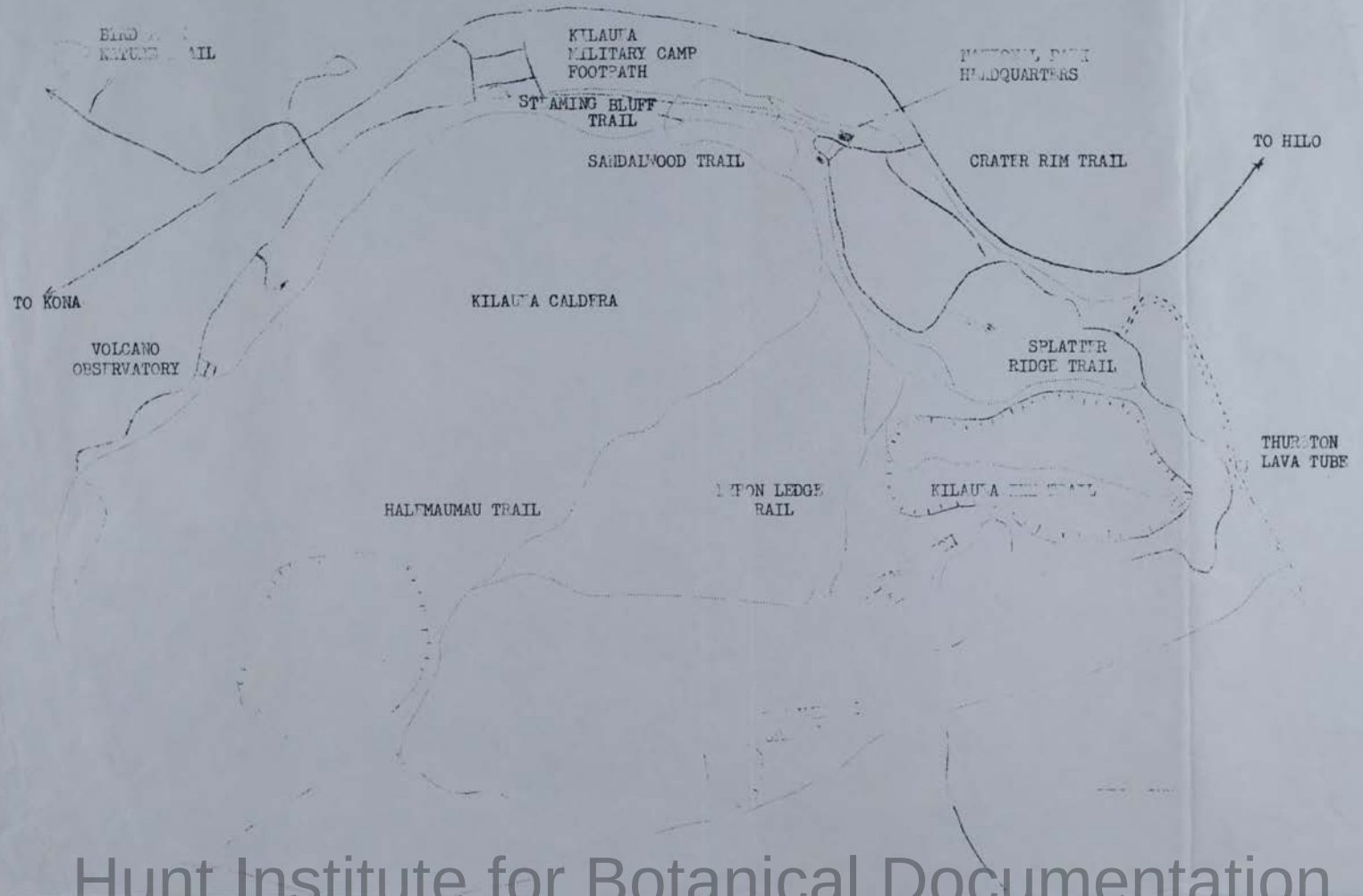
Except for very short hikes, it is strongly recommended that sturdy hiking shoes be worn. Tennis shoes and thongs do not hold up on the rough lava surfaces.

There is no drinking water along the caldera trails. We recommend carrying an adequate supply with you.

The weather in the Kilauea region is highly unpredictable. It is advisable to carry some type of light raingear.

The attached map shows the location of the above-mentioned trails.

Attachment



11/14/66

Hunt

HAWAIIAN OCEAN VIEW ESTATES

SUITE 700 PORTOFINO BUILDING · 5400 THE TOLEDO · LONG BEACH, CALIFORNIA 90803
TELEPHONE 433-7484 AREA CODE 213

November 14, 1966

Dr. Otto Degener
P. O. Box 154
Volcano, Hawaii

Dear Dr. Degener:

I received your letter and wish to thank you so very much for your personally autographed book, PLANTS OF HAWAII NATIONAL PARK. I will have many hours of interesting reading and study of your works.

I am forwarding your letter of request for permission to botanize Hawaiian Ocean View Estates to Mr. Don Crawford, President of our corporation. I feel certain he will be only too happy to oblige you. I'm sure the home office will be able to give you maps of our property for your studies. You should be hearing from him direct in a very short time.

Thanks again for the lovely book. It was a pleasure making your acquaintance and I hope we will meet again in the near future.

Aloha,

Les Wunsch

LES WUNSCH

cc: Don Crawford
LW/gh

7/27/64

BOTANICAL GARDEN
Fröhundagatan 22
Gothenburg SV
Sweden

Göteborg, July 27th, 1964.

BP/SM

Dr. Otto Degener
Waialua, Oahu
Hawaii
U.S.A.

Dear Dr. Degener,

Among the botanical manuscripts left by professor Skottsberg his wife has given me those dealing with the Hawaiian Wikstroemia. There are diagnoses, lists of localities and discussions to a lot of species and varieties. The diagnoses and discussions are in many cases incomplete. Sometimes it has been rather difficult to read the handwriting of Skottsberg, but the manuscript has now been type-written. Before it will be possible to send the paper to the printer it is necessary to check a lot of facts and in some cases there must be some additions. Unfortunately no key is given to the Hawaiian species. Also many of the geographical names ought to be checked. I would like to ask if you could give me any reference to a Hawaiian geographical name-list or even better if you could kindly help me in checking the names in the typewritten manuscript. Many a time Mrs. Skottsberg has told me about all the invaluable information you have sent to professor Skottsberg regarding Wikstroemia.

It is a time-consuming work to edit this paper and I can't say when it will be printed.

With kindest regards,
Yours sincerely,

(Bo Peterson)

12/7/64

BOTANICAL GARDEN
Frölundagatan 22
Gothenburg SV
Sweden

Göteborg 7/12/64

Dear Dr Degener,

Enclosed you will find a type-written copy of the first part of Prof. Skottsbergs MS. I thought you would be interested in reading it. Our secretary has made the fair copying. I have not read it yet. There might be sexual mistakes.

Yours sincerely

Hunt

Degener

aus Braunschweig in Niedersachsen
(Verlag für Sippenforschung und
Wappenkunde. C. A. Starke, Görlitz)

"Der Sippenname Degener geht zweifellos auf den Vornamen Degenhard zurück. Er kommt in der Stadt Braunschweig schon gegen Ende des Mittelalters vor. Jedoch ist das hier behandelte Geschlecht Degener erst seit Anfang des 17 Jahrhunderts. ebd nachweisbar. Vermutlich ist es aus einem Dorfe der Umgegend (dem Wipshausen bei Peine, wo besonders viele Träger des Namens Degener gesessen haben, zugezogen. Die ältesten ganz sicher festgestellten Sippen-Mitglieder zu Braunschweig erscheinen, ihrer ländlichen Herkunft entsprechend, als Kuhhirten verschiedner Weichbilder der Stadt.

Heinrich Degener (~~gestorben~~ 1708) Kuhhirt in der Altenwik, liess seinen Sohn 1688 Andreas Degener bei der sehr angesehenen Gilde der Wandschneider und Lakenmacher in der Neustadt als Lehrling einschreiben. Mit ihm setzte ein sehr rascher Aufstieg des Geschlechts ein. Schon in den nächsten Geschlechterfolgen

gelangte es vornehmlich durch Tuch und Wollhandel zu bedeutendem Wohlstande. Die Enkel des Andreas Degener, nämlich Johann Heinrich Degener, Carl Heinrich Degener, und Johann Friedrich Degener beherrschten den Wollhandel zu Braunschweig; ihre Firmen hatten Ruf in ganz Deutschland"

From conversation with his father Wilhelm Degener (1844-1916) Otto printed in Fl. Haw., June 20, 1969: "The first to bear the name Degener, some of whose forebears seem to have been cowherds, was a judge. When the headsman, it is said, neglected to appear at the appointed time, the judge made sure that justice triumph by doning the former's black hood and cloak, drawing his degen, or sword, and dispatching the criminal he had condemned. Just as a man using a cart might acquire the family name Carter, so di the judge acquire the family name Degener."

Orchids from Hawaii

OSCAR M. KIRSCH
2869 OAHU AVENUE
HONOLULU 14, HAWAII

October 24, 1963

Dr. Otto Degener
Waialua
Oahu, Hawaii

Dear Dr. Degener:

Thank you for your letter of October 20 concerning the native Hawaiian Orchids which Carey D. Miller turned over to me. While they are alive, they are a long way from blooming, but of course I hope that some day they will.

As to the proper taxonomic standing of Anoectochilus, Odontochilus and Vrydagzenia - the only book I have that deals with them is Rudolf Schlechter's Die Orchideen - second edition 1927. It does not give the dates of any of the various authorities quoted, but it does tell of the differences in structure. So all we really have to do is make them flower and then take it from there. I'll point out a few of the differences mentioned, but if you would like to borrow my copy of Schlechter's work, you are more than welcome.

Odontochilus Bl. extands over an area from India to the Sandwich Isles. (This would indicate that our Anoectochilus is really an Odontochilus.) The differentiating characteristic between it and Zeuxine is the more or less "gekerbte Lippennagel."

The difference between Anoectochilus Bl. and Odontochilus Bl. is and I quote: "Die Blueten aehneln der vorigen Art auffallend, sind aber dadurch zu erkennen dass die Lippe einen deutlichen Sporn bildet. Auch die Saeule had einen guten Charakter. Sie bildet an der Front zwei Laengslamellendie unten mehr oder minder in den Sporn hineinragen. Eine aehliche Bieldung ist mir bei Odontochilus nichtbekannte geworden."

As to Vrydagzenia Bl.: "Eine sehr charakeristische Gattung, ueber deren Umgrenzung kein Zweifel herrschen kann. In den meist dicken Sporn haengen von der Saeulenbasis zwei drommelstockaehnliche Auswuechse hinein. Die breite kurze Saeule ist an der Spitze vor den Rostellum zweilappig. Ihr Verbreitungsgebist reicht von Hinter Indien bis zu den Viti Inseln.

This is all I could find in the books in my library, which is really an orchidgrowers collection and not a taxonomists.

Best regards and Auf Wiedersehen!

OMKirsch

Orchids from Hawaii

OSCAR M. KIRSCH
2869 OAHU AVENUE
HONOLULU 14, HAWAII

8/29/63

August 29, 1963

Dr. Otto Degener
P. O. Box 721
Lanai City, Lanai, Hawaii

Dear Dr. Degener:

Carey D. turned the plants of

Anoechtochilus sandwicensis, and
Liparis hawaiiensis

over to me to develop into nice, healthy, blooming specimens. Frankly, I very much doubt that I can do it. According to your letter they grew at 3300' altitude in deep shade in a rain forest; the former in sticky mud, the latter epiphytically in moss. I'll do my best to approximate these conditions, without any promises of success. I have found again and again that high altitude plants do not like our lowland climate. However, I assure you that whatever can be done, will be done.

I believe that Goodale Moir's climate in Dowsett Highlands might be more suitable, but I also know that May and Goodale are leaving in about a month, and will be gone for quite awhile.

Any particular instructions you care to send will be appreciated.

Sincerely yours,

O. M. Kirsch

cc: Carey D.

Dec. 31st '61.

Dear Dr. Degener:

I am enclosing a large scale map of part of the Mokuleia area so as to pin point the area of collection. I believe you can find Mokuleia Camp & Dana on your large scale maps. This is a Parker Ranch map of different paddocks. The area on this map is rolling grassland with a rainfall of around 35" at Mokuleia station decreasing to the west and to the south to around 25".

The mulei is found growing on the sides of the gulches. Elevation is 4,000'. This is on the North slope of Mauna Kea.

The Kalii is found growing along slopes of the gulches that are not perpendicular. One of the male trees was 15' tall and was about 6" in diameter. The female plants were shrubs. Elevation: around 4,500' (27821 and 27822).

Sandalwood (ellipticum) tree is a single tree growing on the side of a gulch. This

is around a 25" rainfall area. Grassland all around. Elevation: 3,600'. (No. 27823)

The coprosma grows in the same area as the selii.

Chamaesyce grow in the gulches from 3,900' on up the mountain. The specimen you sent to Dr. Sherff was taken at 4,000'. These trees grow up to 25'-30' tall and grow on the sides of the gulches and is abundant. It grows to 6" in diameter and is not a spreading tree but a straight-upright tree.

The lipochaeta is common on the sides of the gulches. (L. subcordata G. Shay) Am sending some now.

Makakelau station covers up to the Mauna Kea Forest Reserve Boundary. Umikoa (Kukaiau) Ranch on the East and Holoholoku Paddock on the West of our station.

The Northern Boundary is Hawaiian Homestead land and Pauahau (1) Paddock (Parker Ranch). Hope this doesn't confuse you more. We appreciate the informati

you give us.

Sincerely,

Mr. & Mrs. Charles Armstrong

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
PACIFIC SOUTHWEST FOREST AND RANGE EXPERIMENT STATION
1960 ADDISON STREET POST OFFICE BOX 245
BERKELEY 1, CALIFORNIA

IN REPLY REFER TO

4110
January 27, 1961

AIR MAIL

Dr. Otto Degener
Mokuleia Beach
Waialua, Oahu, Hawaii

Dear Dr. Degener:

Thank you so much for the Flora Hawaiiensis, Tropical Plants, and "Fiji." A check for Flora and the air mail postage is enclosed. I am indeed interested in all of the publications and shall cherish them.

Perhaps you will be interested to learn something of the source of my interest. I am a forester employed by the U. S. Forest Service as Chief of the Division of Forest Management Research at the Pacific Southwest Forest and Range Experiment Station. About two years ago we set up a branch office in Honolulu and have made a modest start on a forest research program in the new State in co-operation with the Hawaii Division of Forestry.

The officer in charge of our Hawaii branch is Robert E. Nelson. His office is at the headquarters of the State Forester. He would be pleased to have you call at his office.

Beginning last May I have made 3 trips totaling 9 weeks to Hawaii (the 5 principal islands) in connection with my work specialization, silviculture. I have had occasion to participate in the preparation of two reports, of which copies are enclosed.

I expect to visit Honolulu again in August at the time of the Tenth Pacific Science Congress in which I shall have a part in the Forest Biology section. Perhaps at that time I can meet you personally.

Very sincerely yours,

Russell K. LeBarron

Russell K. LeBarron, Chief
Forest Management Research Division

Encs.

EVAN C. EVANS III
36 HILLCREST ROAD
BERKELEY 5, CALIFORNIA

Dear Dr. Degener:

Thank you very much for your note of 3 March. I am delighted to hear that Volume 6 of your Hawaiian Flora is completed. I am enclosing a check for $10.00 in payment for a copy.

Unfortunately the press of many matters has kept me from Hawaii since 1961. I hope some day to return for a long, rambling botanizing expedition in the more remote areas of the islands.

I shall be eagerly awaiting the arrival of volume 6. Please let me know if any postage is needed.

Aloha,

C. Evans III

Berkeley, California
8 March 1965

"Ach Egg" was Eugene's tenant in Honolulu when former was U. of H. student

99/61/01

He is part Amerindian. His father was supt. of schools somewhere in Calif.

THE SUNDAY STAR-BULLETIN & ADVERTISER Honolulu, Oct. 16, 1966 D-3

Trees for Hawaiian Gardens

By DR. DONALD P. WATSON
Chairman and Extension Specialist Department of Horticulture University of Hawaii

"Each tree takes from its parent similar characteristics: similar bark, similar leaves, flowers, and fruits, similar but not exactly the same . . . This specialness of character gives a tree distinction. Its shape and structure, the pattern of the bark, the color and texture of the leaves, flowers and fruit give the tree its individual personality . . . That the tree grows more picturesque with time, that it projects itself into the landscape are the qualities that man values."

This quotation is from a book entitled "Trees for Hawaiian Gardens" written by James Hubbard and Dr. Horace Clay, local authorities on the subject of trees. This book, available for $2.40 by writing to the Publications Office, University of Hawaii, 2525 Varney Circle, Honolulu, Hawaii, 96822, is a remarkably good treatise for anyone who is interested in Hawaiian trees.

It provides so much more information than I can hope to do at this time.

There are over 150 fine pictures of some of the best trees in the State. As well as illustrating trees in their entirety, these authors have remarkable illustrations of the roots, the structure, the bark, leaves, flowers and fruit.

Some of my favorites are the close-up of the leaves and flowers of a Plumeria, a Rainbow Shower, African Tulip, Oleander, of the Hau on Kalakaua, the banyan roots above the ground in Foster Gardens. You can certainly see the handiwork of James Hubbard in his selection of pictures.

Anyone who is at all interested in Hawaiian trees should not be without this book that must have cost a lot more to print than the nominal price at which it is being offered by the Cooperative Extension Service.

Directions for Use

This book goes into so many fundamentals not often included, things the average homeowner doesn't consider, not just the way to plant, stake, prune and care for trees, but such considerations as the balance, emphasis, proportion and background that show off a tree to its best advantage.

Garden Trees

They list and describe 123 different trees for a Hawaiian garden. Twenty-five of these are illustrated with the description and many others in other sections of the book.

Street Trees

Until I read and studied this publication, I didn't realize that we had as many as 30 good street trees from which to choose. I am told that they only recommend five different trees for street planting under utility wires in California. We have 13 that are good for narrow strips under utility wires (if wires must be above the ground): Formosan Koa, two Albangbangs, Liberian Coffee, Kou, Ligmum vitae, Tulip wood, Mimusops, Mock Orange, Oleander, Allspice, Bay rum tree, Podocarpus.

Availability

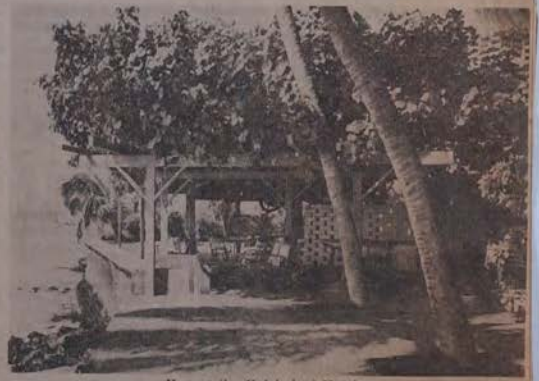
Well over a hundred trees are listed in this book. They may not be available locally, but they will all grow here. We do want to increase our variety don't we? And some of you may have a special favorite, so look it up and see whether it will suit your purpose.

It may be a Kiawe like the one near Kapiolani and Kalakaua protected last week by Mrs. Viljoen and Mrs. Boeke.

Next week: Should you grow your own anthurium?

Dr. Horace Clay, one of the authors of "Trees for Hawaiian Gardens."

Roots of a banyan tree.



Hau at the Halekulani Hotel.

Octopus Tree in flower.

THE EAST-WEST CENTER . . .

Flora Pacifica

When friends get together . . . anything can happen. And something extraordinary did. Three years ago Friends of the East-West Center and Friends of Foster Garden said 'yes' to underwriting an original and visionary idea: Flora Pacifica.

This ethno-botanical show was the brain child of Paul Weissich, director of Honolulu's Foster Garden, and James Hubbard of the Institute of Technical Interchange of the East-West Center.

THESE MEN felt that plants are intertwined in the life of man. Raw plant materials are used to fashion ... buildings, garments, foods, medicine and chemicals. Plants symbolize his philosophy and religion and ... in his arts.

They set out to show in dramatic ... exactly how man has used ... materials.

... the help of three dozen "design" friends Flora Pacifica was ... on the second floor of Jefferson ...

In its initial presentation, ...tiful plants of the Pacific basin ... exhibited side by side with ... artifacts, accompanied by an ...planation of their functional and ...losophical uses. The show was an ...tant success.

IN ITS second show last year, ...00 people toured the exhibit.

This spring Mr. Hubbard and Mr. ...eissich were invited by the Massachusetts Horticultural Society to fly ... portion of last year's exhibit to ...ston. The Hawaii exhibit won ...ree out of five gold medals and ...s enjoyed by 150,000 persons as ...ell as a television audience.

April 14, the opening day this spring, marks the third anniversary of Flora Pacifica and the introduction, for the first time, of a flower theme for one of the main galleries.

Chrysanthemums, the ancient Oriental symbol of fidelity and longevity and the Japanese symbol of the Imperial House, will be featured in the Asia Room.

ONE HUNDRED dozen flowers at the height of their bloom will be air expressed from California by United Air Lines the day before the opening. The chrysanthemum varieties will include spoons, spiders, incurves (the popular football mum), recurves, buttons, pompons in every color.

The Pacific Room will feature plants and art of Melanesia. The East gallery will show plants of Asia used as symbols in religions, legends and customs and the West gallery will reveal the plants of Hawaii found in chants, legends and customs.

ADMISSION and parking are free, and there will be ample parking because it is spring vacation at the university.

The show is open to the public daily from April 14 to April 17.

On Thursday, April 14, and Friday, April 15, hours are noon to 10 p.m. On Saturday, April 16, and Sunday, April 17, hours are 10 a.m. to 10 p.m.

Special guided school tours are planned April 14 and 15 from 9 a.m. to noon.

All school tours must be accompanied by teachers who are requested to call Foster Garden for information. The number is 503-406.

APRIL 3, 1966 SECTION D
Women
THE SUNDAY STAR-BULLETIN & ADVERTISER

Phoung Mai Nguyen poses before East-West Center building.

Our Cover Girls . . .

Girls holding bouquets of chrysanthemums, the theme flower of Flora Pacifica, are beauties with brains. Each is an East-West Center grantee with goal set and future plotted.

Phoung Mai Nguyen of Viet Nam is working for her BA degree in political science and plans to return to Saigon and work for the Foreign Affairs Department of her government.

Maria Montelibano of the Philippines will teach political science and international relations at Mindanao State University at Marawi City in Lanao province when she graduates from the East-West Center in 1967.

Sachiko Toda of Japan is studying linguistics, speech and English and will teach senior high school in Niigata, Japan. Complimented on her English, she sighed: "But I have such trouble with my La and Ra."

Salanieta Malaucake of Fiji is enrolled in a nine-month course in hotel and restaurant management. She returns to Suva this summer to work at the Sky Lodge Hotel. "Then I will show the waiters how to set the tables, serve and do things right."

Cynthia Ai of Honolulu graduated from Hanahauoli and Punahou schools and from Skidmore College last spring. She is working for her MA degree in Chinese philosophy and plans to go to Formosa in September to refine her conversational Chinese and eventually to Europe to teach.