



Hunt Institute for Botanical Documentation
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About the Institute

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.

The High Cost of Housing: Four

Views

A Tenant's

SIR: The time has come when my wife and I have made a decision about leaving Hawaii. We are both 25 years old and were both born and raised here. We love Hawaii very much but the last few years have been very disillusioning for us. We have taken a close, hard look at our future in Hawaii and the prospects are not at all bright.

Between the two of us we grossed \$12,000 last year and have very little to show for it. Hawaii's high prices have taken almost all of it, and we are not high earners. We live in an unfurnished studio apartment in Kaimuki, above a restaurant, paying a ridiculous \$130 a month. The landlord just raised the rent, shades of Mrs. Ing! Food prices are out of sight, gasoline costs over \$30 a month and if I didn't do my own mechanical work we would really be in trouble.

Traffic is a bad joke! It will take ten years for local drivers to learn how to drive freeways (if ever). The speed limits are slow by Mainland standards but still more than most local people can handle. Entertainment is expensive, yet other than going to the beach there is nothing for a person with a very limited budget to enjoy.

We have no children and cannot plan for any as long as we're here. The rent for a larger apartment would be too much, not to mention how we would live and pay bills on my income alone. Buying a house? Don't be silly. Even if we could scrape up the down payment, we would have to live on peanut butter sandwiches in order to make the outlandish mortgage payments demanded by overpriced housing.

We have both gone to college on the Mainland and have seen enough of the other states to make a fairly objective comparison to Hawaii. We have come to the conclusion that the only advantage Hawaii has over the Mainland is the weather.

In the direction Hawaii is moving, with its eyes on the tourist dollar instead of its citizens, more and more of its young people are forced to look to the Mainland for their future. Hawaii would do well to point its resources toward making living possible here for its struggling young talent or you will find a State of \$50,000 condominiums inhabited by \$30,000 a year executives on one side and welfare state slums on the other.

We are very sad to have to say, "California here we come."

M.R.

How, A Landlord's, B.

SIR: Owning property consisting of old house and servants' quarters, both with legal kitchens on a smallish lot, I was subjected to rent control a couple of decades ago. A group of inspectors came, evaluated the servants' quarters at a profit to me, after taxes, repairs and amortization, at a sum about equal to what a breakfast with a fried egg and bacon would cost in some neighboring Mollili restaurant.

One of the inspector's sons, a married University student, moved in with bride, a perfectly legal act. I and neighbors soon noted the young couple were subject to frequent misunderstandings, the husband giving forth piercing screams during his tantrums — yes, you guessed it, the union ended in divorce. As the law allowed the eviction of a tenant if a landlord's relative needed the property, I had my sis-

The cleverest dead beat tricked me in accepting \$10 in part-payment from him on rent so that even a lawyer had difficulty prying him out of the premises — the last I heard, he had been so extremely "clever" that he landed in a Massachusetts jail.

5. For the slovenly tenants who let their garbage pile up under the kitchen sink so that on their departure the landlord must fight hordes of vermin. Our prize slattern, an AWOL sergeant and family, tore my curtain and counterpanes into diapers for the two babies. They borrowed money from a gullible tenant for a getaway interrupted by the Federal Government.

6. For the tenant who swears he is not responsible for the plumbing mishap and moves before the expensive plumber discovers hair pins, etc., in the pipes.

7. The 30-year-old maiden ladies who turned out to be hippies according to

LETTERS to the Editor

ter come from the Mainland to visit me and take over the unit. Upon her departure in spring, I locked the unit until rent control was repealed. If we start rent control again, how many marginal rental units like this one will be retired and kept vacant?

It is the ideal tenant, naively forgetting about the expensive trouble-maker, who is apt to complain about the heartlessness of the average landlord. Such tenant does not realize that he is being charged for the shortcomings of others. I have been forced to raise my rents over the years not only because of rising taxes and the sinking value of the dollar but

1. For tenants that promise to stay for at least six months but vacate after two due to wife-beatings and divorce, with the result that rent is lost during a too-frequent tenant turnover.

2. For alcoholics and bachelors who made themselves objectionable by brawls, vomitings, and overnight lady guests.

3. For newlyweds who threw rubber shoes against white ceiling and walls during periods of exuberance necessitating a complete paint job, and tired housekeepers whose minor children smear up the walls with jam, peanut butter, and wax crayons so far as their little fingers can reach.

4. For dead beats who first pay their instalments on car, radio, TV, etc., before thinking about rent payments.

the gaudy floral and bee-pollinating oil paintings they perpetrated on bedroom, living room and kitchen walls. The bath we shall not mention.

Such rental expenses and difficulties are not absorbed by THIS landlord, but are paid for by the new occupant without realizing the reason why.

Let us have rent control and force marginal low-rent housing off the market, discourage landlords from building additional low rent units, and spawn still another bureaucracy with swarms of tax-paid inspectors, busy-bodies and clerical help who require tax-paid trips to far off cities in America to learn how rent control is practiced there and then travel to cities in Russia and Red China to see how the American Way compares with the Communist Way.

Or let us reduce bureaucracy, reduce expensive joy rides for sauna-lolling, perhaps red-carpet pilfering legislators and thus be able to afford reduction of taxes on low rent housing. Marginal units will not only remain available but additional units will arise like mushrooms.

As proof of my sincerity and in gratitude to my former tenants who have not hanged me like the Chinese and Russians have liquidated landlords and Kulaks, I am presently prepared to sell two of my fee simple rental units in Manoa Valley.

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Oct 9, 1969

Star-Bulletin 10/15/69

Editor:

Owning property consisting of old house and servants' quarters, both with legal kitchens on a smallish lot, I was subjected to rent control a couple decades ago. A group of inspectors came, evaluated the servants' quarters at a profit to me, after taxes, repairs and amortization, at a sum about equal to what a breakfast with a fried egg and bacon would cost in some neighboring Moiliili restaurant. One of the inspector's sons, a married University student, moved in with bride, a perfectly legal act. I and neighbors soon noted the young couple were subject to frequent misunderstandings, the husband giving forth piercing screams during his tantrums - yes, you guessed it, the union ended in divorce. As the law allowed the eviction of a tenant if a landlord's relative needed the property, I had my sister come from the Mainland to visit me and take over the unit. Upon her departure in Spring, I locked the unit until rent control was repealed. If we start rent control again, how many marginal rental units like this one will be retired and kept vacant?

It is the ideal tenant, naively forgetting about the expensive trouble-maker, who is apt to complain about the heartlessness of the average landlord. Such tenant does not realize that he is being charged for the shortcomings of others. I have been forced to raise my rents over the years not only because of rising taxes and the sinking value of the dollar but:

1. For tenants that promise to stay for at least six months but vacate after two due to wife-beatings and divorce, with the result that rent is lost during a too-frequent tenant turnover.
2. For alcoholics and bachelors who made themselves objectionable by brawls, vomitings, and overnight lady guests.
3. For newlyweds who threw rubber shoes against white ceiling and walls during periods of exuberance necessitating a complete paint job, and tired housekeepers whose minor children smear up the walls with jam, peanutbutter and wax crayons so far as their little fingers can reach.
4. For dead beats who first pay their instalments on car, radio, TV, etc., before thinking about rent payments. The cleverest dead beat tricked me in accepting \$10 in part-payment from him on rent so that even a lawyer had difficulty prying him out of the premises - the last I heard, he had been so extremely "clever" that he landed in a Massachusetts jail.
5. For the slovenly tenants who let their garbage pile up under the kitchen sink so that on their departure the landlord must fight hordes of vermin, not to mention scrape the encrusted kukui from under the toilet seat - our prize slattern, an AFOL Sergeant and family, tore my curtain and counter-pains into diapers for the two babies. They borrowed money from a gullible tenant for a getaway interrupted by the Federal Government.
6. For the tenant who swears he is not responsible for the plumbing mishap and moves before the expensive plumber discovers hair pins, etc., in the pipes.
7. The thirty year old maiden ladies who turned out to be hippies according to the gaudy floral and bee-pollinating oil paintings they perpetrated on bedroom, living room and kitchen walls. The bath we shall not mention.

The vacating tenant who has sold his car to a friend and hence asks permission to leave it on the premises for a few days. No friend coming, I with some anxiety for fear of being accused of stealing the wreck, must finance its removal.

9. For the tenants, about whom sob-sisters weep in our newspapers at the

filthy condition of the surroundings, whose surroundings are filthy because of the tenants' own dropped cigaret cartons, tissue paper, liquor bottles and discarded tires. Would such tenants not feel out of place among shrubs and flowers?

10. For the tenant who must check the inventory of the unit in a great hurry at night so that the gloom hides cracked windows and filth.

Such rental expenses and difficulties are not absorbed by THIS landlord, but are paid for by the new occupant without realizing the reason why.

Let us have rent control and force marginal low-rent housing off the market, discourage landlords from building additional low rent units, and spare still another bureaucracy with swarms of tax-paid inspectors, busybodies and clerical help who require tax-paid trips to far-off cities in America to learn how rent control is practiced there and then travel to cities in Russia and Red China to see how the American Way compares with the Communist Way. Or let us reduce bureaucracy, reduce expensive joy rides for sauna-bathing, push red-carpet pilfering legislators and thus be able to afford reduction of taxes on low rent housing. Marginal units will not only remain available but additional units will arise like mushrooms.

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Exhausted Landlord

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DEPARTMENT OF COMMERCE

CONTINUATION OF

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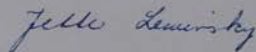
25 April 1984
hl

Dr. Otto Degener
P.O. Box 154
V o l c a n o, Hawaii 96785
U.S.A.

Dear Dr. Degener,

Thank you very much for the gift of 14 herbarium specimens and the very
interesting reprints which you have been so kind to send us.

Yours sincerely,



Jette Lewinsky
Keeper.

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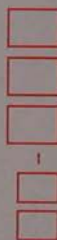
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Drs. Otto and Isa Degener
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ENGLAND

YOUR REF:

OUR REF: H 1904/84

We acknowledge receipt of your

Brexia specimen and related matter

Myr. Hobart
for DIRECTOR

29 November 1984

Dear Drs. Otto and Isa Degener

We received "Flora Hawaiiensis" and many other copies.
Thank you very much for them you have kindly sent.

Sincerely yours,

Michiko Shimoda

Michiko Shimoda
Librarian

Big Island Peace & Environmental Groups

✓ **Aloha 'Aina (To love/take care of the land)** - A grassroots-based organization concerned that the community have sound land-use practices that are in balance, not exploitive of our land and people. Contact: Moanikeala Akaka, 11 Kou Lane, Hilo, HI 96720; 935-7981

✓ **Bhoie Baba Ashram** - Purpose: to spread truth, simplicity, and love thru Karma Yoga (service) and Inner peace. Devotees of Herakhan Baba. Tues. 7 pm chanting; Sun. 7 am fire ceremony, chanting, veggie potluck. Contact: PO Box 461, Mountview, HI 96771; 968-6204

✓ **Big Island Peace Center** - Purpose: to work for increased communication, understanding, and action on environmental and peace issues; outreach programs; animal rights. Monthly meetings. Hours: 12-4/MWF; 10-2/Th. Contact: PO Box 792, Keaau, HI 96749; 966-7589

✓ **Conservation Council for Hawaii** - Purpose: to conserve Hawaii's natural habitat (through education and legislative action). Field trips; outdoor workshops. Affiliate of National Wildlife Federation. Contact: PO Box 1222, Hilo, HI 96720; 967-8280

✓ **Greenpeace** - Purpose: to maintain an ecologically clean, environmentally safe earth. Main focus is on ocean issues: marine mammals, nuclear testing, toxic waste disposal. Non-violent direct action. Contact: Dexter Gate, 167 Lahaina St, Hilo, HI 96720; 961-9224

✓ **Ka 'Ohana o Ka Loe (the Family of Southpoint)** - Purpose: to preserve and restore Hawaiian culture; to return Hawaiian land to its people. Sponsors monthly flea market. Meets weekly. Contact: PO Box 673, Naalehu, HI 96772; 928-8554 or 929-9047

✓ **Kona Conservation Group** - Purpose: To conserve the natural environment of Kona. Meetings every other Saturday. Contact: POB 442, Kailua-Kona, HI 96745; Doug Blake 325-9950, Elizabeth VonBeck 329-8786

Ku'ikehi Mediation Center - Purpose: To provide a place where conflicts can be clarified, defined and resolved through mediation. Free alternative to courts. Contact: Waialea Settlement YMCA, 300 W. Lanikaule, Hilo, HI 96720; 935-3721

✓ **League of Women Voters** - Purpose: voter education. Non-partisan; conducts studies on environmental and peace issues, citizens' rights, international relations. Legislative action. Open to men and women. Contact: PO Box 665, Hilo, HI 96720; 961-2753

Malu 'Aina (Land of Peace) - Purpose: Working the land for peace and justice. Non-violent action for a nuclear free and independent Pacific. International solidarity work. Contact: PO Box AB, Kunitown, HI 96760; 966-7622

✓ **Ma Ala Hele (The Trails)** - Purpose: to advocate the preservation of historic Hawaiian trails and the protection of natural and historic resources adjacent to trails. Contact: PO Box 1572, Kealahou, HI 96750; 329-9172

Maui Maluhia (Wave of Peace) - Purpose: to unify and pursue positive expressions of peace. Meets last Sunday of each month, 12 noon, Hlgashlana Park. Contact: Margie Wong, 77-6452 Ali'i Drive, #213, Kailua-Kona, HI 96740; 329-5090

National Organization for Women (NOW) - Purpose: To end discrimination/racism/violence against women. Support the ERA, and economic/political/reproductive/lesbian-gay rights. Achieve full equality for women. Contact: PO Box 1441, Pahoa, HI 96778; 965-9756

Pa'a Pono Miiololi'i - Purpose: to preserve Hawaiian heritage, culture, and the betterment of conditions for the people of Miiololi'i (in South Kona). Contact: PO Box 551, Honaunau, HI 96726; 959-6579

Physicians for Social Responsibility - Purpose: to educate the public and national policy makers on the medical consequences of nuclear war. Non-physician membership available. Contact: Dr. Ernest Bade, Hilo Medical Group, 1292 Wai'anuenue Ave, Hilo, HI 96720; 961-6631

Protect Kaho'olawe 'Ohana - Purpose: to protect Kaho'olawe from bombing and desecration by the Navy. Contacts: M. Akaka, 11 Kou Lane, Hilo, HI 96720, 935-7981; P. Dedman, PO Box 469 Naalehu, HI 96772; J. Spencer, PO Box 1993, Kailua-Kona, HI 96740; 329-8180

Public Access Shoreline Hawaii (PASH) - Purpose: to protect the coastal area of the Big Island (through coastal zone networking, and monitoring of appropriate governmental agencies). Contact: PO Box 1544, Kailua-Kona, HI 96740; 329-1568

Puna Geothermal Committee - Concerned with geothermal development; seeks to keep any energy development limited to local needs and in compliance with environmentally sound goals. Contact: PO Box 370, Volcano, HI 96785; 968-6278

Sierra Club (Moku Loa Group) - Purpose: to protect our environment and prevent the exhaustion of our natural resources. Legislative action; hikes and outings; newsletter. Contact: Jack Straka, PO Box 1137, Hilo, HI 96720; 966-7579

Women's International League for Peace and Freedom (WILPF) - Involved with concerns of social responsibility. First priority: to freeze and reverse the nuclear arms race. Open to men and women. Contact: PO Box 1693, Hilo, HI 96720

Wood Valley Retreat Center - For the individual or group who wishes to develop inner peace and clarity. A tranquil setting for seminars and retreats. Occasional meditation classes or your own programs. Rooms available. Contact: PO Box 250, Pahala, HI 96777; 928-8539

Ye Old Hawaiian Inn (formerly Kona Light Center) - Quiet, supportive, peaceful retreat. Yoga, Tai Chi, classes; veggie kitchen; rental rooms. Environmental networking; meeting hall available for other groups. Contact: PO Box 879, Kealahou, HI 96750; 322-9056

WHERE THE CANDIDATES STAND

(continued from previous page)

COUNTY COUNCIL CANDIDATES

All nine council members are voted on county-wide, but six of the council seats have district residency requirements for candidates. The six incumbent (Inc) candidates are listed under b since they voted in favor of the new law.

AT-LARGE (3 seats): You can vote for up to three of the Democratic at-large candidates.

	<u>a</u>	<u>b</u>	<u>c</u>
Democrats:	Lau	Deluz(Inc)	Jitchaku - "No opinion ... not that familiar with the original law."
	Nakama	Meheu	Kuwahara - "Let's try to learn how to love God and love one another. If you start from this priority, everything else will come together." (See * bottom of page.)
	Owen	Yamashiro(Inc)	

Republicans: Debus Akana

PUNA(1)

	<u>a</u>	<u>b</u>	<u>c</u>
Democrats:	Holmes	Enríques	Kokubun - "When national security is threatened by war, military law supercedes county ordinances. During times of peace, the military should respect and abide by county ordinances."
			Reed - Does not want nuclear materials on the island, but nuclear visiting ships ok.

N-S KONA(1)

	<u>a</u>	<u>b</u>	<u>c</u>
Democrats:	Lewis	Patty	Basque - Same as Reed (see above).
			Keanaalua - "No opinion at this time; all I can say is we need a strong defense-- I pray we don't need to use it."
			Smith - No opinion.

Republicans: Herkes

N-S KOHALA(1)

	<u>a</u>	<u>b</u>	<u>c</u>
Democrats:	Sameshima	Schutte(Inc)	Anduha - Will go with what majority of people wants ... Feels majority wanted law not to be amended.

N-S HILO(1)

	<u>a</u>	<u>b</u>	<u>c</u>
Democrats:		Isemoto	
		Lai(Inc)	

HAMAKUA(1)

	<u>a</u>	<u>b</u>	<u>c</u>
Democrats:		Domíngo(Inc)	
Republicans:		Dedell	

KA'U(1)

	<u>a</u>	<u>b</u>	<u>c</u>
Republicans:		Dahlberg(Inc)	

* (Akisuke Kuwahara should not be confused with retiring councilman William Kuwahara.)

The Plunge for Minerals:

Hawaii – Off Shore Mining?

For the last several years, the US Department of Interior (DOI) and oil companies have been quietly mapping out large sections of the Pacific Ocean floor to be leased for mining. On March 5, 1984 the DOI's Minerals Management Service published a notice-of-intent to prepare an environmental impact statement (EIS) for a proposed lease sale of cobalt-rich manganese crusts offshore of Hawaii.

Public hearings were held in Honolulu on April 30 and in Hilo on May 1 to invite comments as to what should be the scope and content of the EIS. Representatives from the DOI and from the



Hawaii Department of Planning and Economic Development (DPED) were present at the hearings.

In Hilo more than 125 environmentalists, fishermen, scientists, activists, and legislators showed up to testify against any operations off Hawaii's coast. Big Island residents at the

hearing were unanimous in their opposition to the plan.

The stripmining process may call for remote-controlled, gigantic bulldozers to be used to scrape the cobalt-rich crust from sea mounts. This process could load the ocean currents with heavy metals. And since the ores are expected to be relatively low grade, more than 90 percent of the materials brought to shore will be discarded, threatening to pollute local watersheds, surface runoff, groundwater and coastal water.

Earlier the DOI had proposed a similar deepsea mining operation at Gorda Ridge, a vast undersea canyon off the Southern Oregon and Northern California coasts. The Oceanic Society, Center for Law and Social Policy, and the National Resources Defense Council launched a campaign to delay the EIS process and subsequent lease sales. Protests from the fishing industry, county and state governments, and the general public, resulted in a California legislative resolution asking the federal government to delay the Gorda Ridge lease sale for five years.

Hawaii citizen and environmental groups are urging their representatives to call for a similar delay in the EIS process. On May

Missed 53 Aug Dec
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C.D.

Is this the last koa or
lehua



John H. H. H.

State fines Bohnett for illegal logging

By Gerald Kato

Advertiser, Honolulu, Hawaii
Honolulu Advertiser

Following up on action it took a month ago, the Board of Land and Natural Resources yesterday fined Pua Waawaa Ranch owner P. Newell Bohnett \$34,600 for illegal logging and clearing of koa trees within the state conservation district in North Kona 11/17/84.

In addition, the board ordered Bohnett to pay \$8,541 for 520 trees that he removed through an independent sawmill operator who paid him some \$9,000 for the koa owned by the state.

On Oct. 12, the board cracked down on Bohnett because of allegations that he illegally logged koa trees, disrupted the habitat of the endangered Hawaiian crow, the alala, illegally took water from a state well and constructed a water pipeline through the conservation district without permission. The state took back 80,000 of the 105,796 acres of state land leased by Bohnett, quadrupled his annual lease rent and

handed out stiff fines.

After gathering more information and clarifying the extent of the logging, the board yesterday imposed the fine for the conservation district violations and ordered payment for the trees. But environmentalists believe the board should have gone further.

The Hawaii Audubon Society, the Conservation Council for Hawaii, and the Sierra Club, Hawaii Chapter, have requested that the board start all over with a court-like "contested case" on the issues surrounding the Pua Waawaa lease. Board Chairman Susumu Ono referred the contested case request to the attorney general for an opinion.

Bohnett told the board yesterday that he felt the \$34,600 fine was "excessive." The board is leaving open the possibility of allowing Bohnett to build fences around the alala habitat in lieu of paying the \$34,600. Part of the land taken away from Bohnett will be used for the habitat.

wishing you
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AND THE HAPPIEST
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Dr. Otto Regener

9/13/65

Hunt

BERNICE P. BISHOP MUSEUM



Honolulu, Hawaii 96819 - Telephone 955-861

September 13, 1965

Dr. and Mrs. Otto Degener
R.R. 1, Box 89
Waiialua, Hawaii 96791

Dear Dr. and Mrs. Degener:

In appreciation of your interest in Bishop Museum a complimentary copy of Marie C. Neal's In Gardens of Hawaii is being sent you under separate cover. This long out-of-print volume which has just been published was perhaps Miss Neal's most enduring contribution to the field of botany.

Shipment has been requested from the printer in Lancaster, Pennsylvania; hence some time will elapse before your copy arrives.

With all best wishes.

Sincerely yours,

Roland W. Force

Roland W. Force
Director

RMF:scj

DRS. OTTO & ISA DEGENER
P. O. Box 154
Volcano, Hawaii 96785, U.S.A.

April 1, 1985

Dear Frances:

Recently, instead of moving from our Mokuleia Beach place to our Volcano Village one every two or so months, our stays for various reasons (rental unit inventories & repairs, dental & routine medical checkups, etc.) have been prolonging to as long as six months. As we move from island to island with just our carry-on flight bags, letters lie fallow either on Oahu or Hawaii for months! That is why we are so slow in answering.

Isa & I are delighted to learn you are so well and active. During the past few years, we tried to decrease our sadness caused by the loss from cancer of Isa's mother, by taking her ashes to Germany to lie next to her husband's in Freiburg. On her sensible suggestion we returned home via Canaries, Madeira, Tenerife & Azores, collecting plants industriously. These we dried as best we could in our various hotel rooms before mailing them home. We have been busy labeling them before sending them to US museums, incidentally getting a nice eleemosynary gift credit from the tax office. Tgen similarly, we visited during the International Bot. congress in Sydney, the North Island of New Zealand and also Tasmania. We can botanize in such areas better than in our OWN islands of Hawaii which since Viet Nam are overrun with marijuana cultivating dopes. We sold our jeep as it is too dangerous to botanize from isolated roads. In fact, both Isa & I were shot at by such illicit growers, evidently because in our botanizing we strayed near some hidden marijuana patch.

Did we not meet Max & you through the Moldenke's? Though one should expect the inevitable with quiet common sense, we are greatly worried by Harold & Alma. Because of heart trouble, they are selling out in New Jersey to live with Andy and family out West. No matter how congenial close relatives may be, the generations should be able to be occasionally alone. We solved the problem by having Isa's mother live in one of our rental units, of course joining us for meals at our home, and being active with us. I hope the Moldenke's will work out something similar. Suffering from heart trouble, we doubt being stimulated into continuous activity by loving grandchildren reduces life-prolonging rest.

I may be repeating myself, but as writing paper is patient & I have quite a lot empty below I really don't care if I do so. I am really letting off steam before I return downstairs to write more labels and collate book pages. About ten years ago, while eating at neighboring Kilauea Military Camp presumably for dinner with a Singapore botanist, we were disappointed he did not manage to catch his plane from Oahu for Hawaii. Whether this minor disappointment affected my heart nerves or not, I suddenly felt delightfully drowsy between fruit cup and steak. In fact, I was so disturbed that Isa and her mother, between whom I was sitting, brutally slapped & punched me "awake". Of course, I had not fallen asleep, but had died most pleasantly of heart arrest! According to them, I suddenly stiffened straight in my chair, almost upsetting the diningroom table. Luckily a physician was dining at a neighboring table, and the Miliray Dispensary and ambulance were in a neighboring building I was whisked away to Hilo via the US ambulance, where I stayed about ten days before returning home with a heart pacemaker. It is really remarkable that I am so well at 86. Isa likewise is well for her age, but still a bit "burned out" grieving for her mother. She is the only surviving child, a baby brother starving to death in Berlin during the time of the World War air lift.

She joins me, without knowing the details of this partly confidential letter to you, in fond aloha,

Otto D.

O. D.

Life of a pot grower on the Big Island

(Editor's note — Lawrence "Kanaka" Lindsey, 29, is one of three men who pleaded guilty to running a marijuana operation on Kahua Ranch in Kohala. Lindsey is scheduled to be sentenced today. His partner in the operation, Joe N. "Bully" Hui, 30, was sentenced yesterday to 12 years in prison — 2 years for growing, and 10 years for planting booby traps. Below are excerpts of a letter written by Lindsey that were entered into court record by the U.S. Attorney's office. The letter gives a look at his life as a marijuana grower.)

Aloha Ron,
I'm back in the hills again. Sure wish you could see our operation. We siphon water from the stream. Got plants from seedlings, to

mid-stage, to almost harvest stage, to ready to harvest stage, and a couple pounds hanging to dry. Should be almost ready to smoke. I got some roach weed to last me til these I got hanging dry. Should be few days. Seems like I'm never out of smokes. I'll try send some next time I'm in town which should be when I send this letter. They got dogs at the post office and airports sometimes.

Today is kinda windy. I dug some holes and planted some, and watered today. The sun is out, so I might go take a dip and wash for a change. You know how it is when you're roughing it. I have a Coleman stove, couple gals of gas, enough food to last a month, kerosene lantern (the Coleman puts out too much light), a couple boxes of candles, a couple water jugs, and my guns. On yeah, and a cot to crash on. Luxury, eh?

'I'm kinda in a half malitia (sic) situation. Somebody comes in our patch, my job is to shoot first, prisoners, if can, no body gets away. Including the driver . . . Plenty places to dump a body. The pigs would grind (the body) away.'

I'm thinking of taking a vacation this winter, next summer for sure. Probably buy another bike while I'm over there and rent a house for a month or two or three or whatever. Play it by ear. Right now I should be digging more holes, cause there's about 500 or more seedlings to go in the ground. Should harvest big this summer. We have Lord knows how many plants, lots which looks like they'll be "1 lb" or more plants. Some about 10 feet or

more. No exaggeration.

I gotta make more booby traps before my freind (sic) gets here, tomorrow, or he might get pissed! Got some 'creepy crawlers' coming to the patch. Last time they got away with about a lb. The time before, (I wasn't here yet) about 3.5 lbs! They'll be back, and I'll be waiting and ready. If they hide behind a tree, I'll knock it with a (expletive deleted) slug. Throw some .00 buckshot out there. It's like I'm in the military

all over, only different uniform is camouflage woodland or tiger-stripe. I wear a bush hat. I want to get me an M340 mini-sniper. It's a bolt action .22 German-made . . . that cost about \$750, . . . 200 yards, has a pattern of aprx 3". I could shoot game at a hundred yards easy. All headshots.

Another survival weapon I wouldn't mind getting is an M-1 carbine from Iver Johnson Arms. It's got a folding stock, accurate at 100-150 yards, and cost about \$250. The reason for a deadly accurate .22 is because .22s are cheap, and can be stored by the 1000s easily.

Oh well, I'm kinda in a half malitia situation. Somebody comes in our patch, my job is to shoot first, prisoners if can, no body gets away. Including the driver. We don't (expletive deleted) around?

Plenty places to dump a body. The pigs would grind that (expletive deleted) anyway.

I've learned that life is short. To live your life to the fullest and to always do good. To nature and/or to others. Karma is a role of all life, of all genetic forms all the way down to the smallest germ. Every morning the birds wake me up. If it isn't the skylark, it's the cardinal. And every morning I thank God I didn't have to shoot no rip-offs (creepy crawlers).

Hope they don't come back. I got my orders. Lotsa firepower. I'm in condition, too. Despite the beer, whiskey and smokes, I weigh about 150-155. Lean and mean. Accurate and deadly. Well, guess I'll close here. Take care of you and yours. I love you Bro.

Kanaka

Hawaii Tribune Herald, Jan. 9, 1985. Note: We no longer can reach areas to collect the best endemic ferns & Anemone species. It is too dangerous! Both of us were shot at a few years ago by criminal Cannabis growers. C.Y. 9

Hunt Institute for Botanical Documentation



Dear Ida & Otto -

The month of July in the British Isles & a late
Sept. Mediterranean/Black Sea Cruise successfully
broke the desert heat for me.

My eyesight could be better & I have some few
aches where there should be no aches - but all in
all I feel most fortunate health wise -

Hope you are both taking good care of each
other. It doesn't seem possible but Max has been
gone 10 yrs. since this past Sept. I still miss him more
than anyone will ever know.

I.

From an original silk painting by Waituck Lo

Wishing you

all the Joys of the Season

and Happiness in the Coming Year

Affectionate ly
Francis G. [Ermannx]
#

DRS. OTTO & ISA DEGENER
P.O. Box 154
Volcano, Hawaii
96785 U.S.A.

March 18, 1985

Dear Mr. Angell:

Mrs. D., & I have been flying between our two separate island homes because of tenants and dentist's work so that all recent letters have been delayed being answered. Please therefore forgive us for being so slow answering yours of Feb. 19.

I had the work table next to Miss Eaton's in the top floor herbarium wing for about two years at a time. She kindly gave me four paintings which I had reproduced in my *Flora Hawaiiensis* Book 1 in or about 1933. The "Book" (it is not a volume) is in the Garden Library, I bet at your elbow. Don't look for them in my World War II emergency edition of Books 1-4, also in the Library. Because of the War, covers & paper stock were emergency poor, and in my rush the four colored pages had to be omitted.

The paintings I reproduced are of *Osteomeles* of the Rose Family, peanut and a cactus, and one more. This last I cannot recall off hand. Were I at our Mokuia Beach home on the Island of Oahu I could put my hands on the book immediately. Here in the village of Volcano, shortly just four and a half miles from an active lava flow, we lack the copy.

We religiously kept Miss Eaton's originals and correspondence at the Beach. But everything was in danger of getting injured by termites and even by tsunami or "tidal waves" - since 1935 I have had three splashing up to the dining room ceiling - that I gave them away. As the Garden was not interested in an archive collection in earlier days, I imagine I mailed the original paintings to Hunt of the Carnegie-Mellon University.

During the last year or so, I corresponded with Miss Eaton's niece, Xeroxes & originals of such material should be at the Garden. Miss E., tended to be rather independent, and she left after Dr. Merrill came to the Garden as Director. How is correspondence indexed in the Archives? Is it by both name of sender and that of receiver? Mrs. D., & I merely index everything by name of plant genus. Then if we work up a species, we haul out all letters & pamphlets dealing with that genus and read through the entire pile before going to work.

We fear we are overwhelming the Garden library, and hence have omitted some material such as that of my being swindled out of a junk-yacht years ago. I wonder if the Garden should have it. Can a library shelf spare still more Degener correspondence space?

By the way, are you an artist? I tried & failed, as I have stated a couple of times. I attended the Art Students' League more or less opposite Carnegie Hall and then in 1919 (?) studied under Max Rosen at the Colony in Woodstock. My sister was a chum of Mabel Brown, daughter of the famed artist of newsboys. When Mabel was visiting my sister one afternoon in our West 89 Street home, she asked me to show her my summer's accomplishments. I of course proudly displayed them. After a while of serious study she reluctantly but honestly stated: "If I were Otto, I would not go into commercial Art." I had sense to follow her advice; and I had sense enough not to forget my past training. While teaching Botany at the University of Hawaii, I chose the best born natural artist among my lab., pupils (and others) to make the drawings for my floral books under my expert (?) supervision.

To summarize, I have copies of the few Eaton letters in my library on the other island. Even were I there I would have a difficult time unearthing them as they are not indexed under "Eaton". I should have originals and copies in the Garden Library.

Aloha,

Encl. mailed N.Y.

DRS. OTTO & ISA DEGENER
P.O. Box 154
Volcano, Hawaii
96785 U.S.A.

March 19, 1985

Dear Mr. Jiménez:

I have your Feb. 25 note with the copies of your Dec. 15 and 25 letters. I never received the originals. Whether they reached my other address on the Island of Oahu I don't know. The postman is supposed to forward all letters, but keeps other mail until we pick it up ourselves. That may have been the fate of the biography. Mrs. D., & I are sure it will be interesting because of the outstanding character of your father and his ability in matters that interest us.

We met your parents at the International Botanical Congress in Montreal in 1959. His personality of course attracted us. Mrs. D., and I went on a conducted tour to Churchill on Hudson Bay, and regret your parents did not take the same trip as we. Some photographs were of course taken officially at the Congress, and offered for sale. Would they not be available now for you were you to write the librarians of the various Montreal or even other Canadian scientific institutions? Getting good xerox copies would be trivial work for the librarian at modest expense.

You write you have distributed copies of your father's biography to many institutions. How did you get their names and addresses? We use Holmgren, Kuken & Schfield's "Index Herbariorum" published in 1981. The dealer mentioned in the book is Libresse Distribution Center, P.O. Box 25, 7400 SA Deventer, The Netherlands.

I met one of the Goodales a few times many years ago when he was connected with our sugar plantation industry. As a hobby he was prominent in our Orchid Society of which we were never members. The last rumor we heard was that he is in a wheelchair. A week or two ago we noticed in our newspaper that a Meir died at an advanced age. I don't remember the first name.

We know few people; rather by correspondence than by sight. You, as physician, will better understand my interesting, long life span. I taught Botany at the University of Hawaii in 1925-27, wishing to work on a Flora of the Haw., Islands somewhat similar to Dr. Britton's Flora of Bermuda. I had planned teaching half time with a salary, and on the Flora the other half on my own time and funds. The Director, ~~the~~ ^{Director} of a private museum in Honolulu (not connected with the University) wanted me to publish a mere checklist on my own time and funds. I refused, knowing how to imitate more or less Britton's Bermuda Flora, an Island I had botanized in 1921. So he conspired with the new, somewhat objectionable Pres., of the University, an entomologist and son of a Missionary in Mexico, to get rid of me. Hence since 1928 I have had tachycardia and have not driven a car since. To do so was illegal.

Suffering with heart pains in 1927-28 my physician advised me to change my attitude or leave the Islands. As a result I pamper my nerves in not getting excited and, instead of leaving the Islands I moved from Oahu to Hawaii. Now you know why I became the first Naturalist of Haw. National Park in 1929, and wrote my first book: "Plants Haw. Nat. Park(s)".

I interestingly died of heart arrest about ten years ago in a restaurant with a physician by chance dining at a neighboring table AND a U.S. Army First Aid Station with ambulance in a neighboring building. Since that time, I have been wearing a pacemaker. I may have written you all this before but, remember that a symptom of old age is to be repetitious.

Physically Mrs. D., & I could still botanize strenuously enough provided I not go over 7,000 feet elevation. BUT we feel it wise to give it up as our islands are

overrun, since about the end of the Viet Nam War, with illicit marijuana (Cannabis) plantings, fortified with boobytraps (probably the growers learned this during the war) guarding them. A few years ago we evidently strayed too near to Cannabis plants while botanizing, and were shot at by one of the dopes.

A seemingly personal tragedy and the shame of losing my position - - I was considered the second best teacher in this, then, small institution - was certainly lucky for me since 1929 and for Mrs. B., since our marriage in 1953. We have been practically free to do just as we please. I go to ~~the~~ two cardiologists, one on Oahu and one on Hawaii, twice or thrice a year. Common sense tells us that since my feet are a bit more oedematous since last year, we should distribute our unsold books and clean up our estate.

Any duplicates we mail you, please donate to one of your Government institutions ^{they} that may get on library shelves where students will make use of them. Quite a few of our alien plants I have seen in Bermuda, Nassau, Cuba and Panama. If there, why not also in Dominica?

With fond aloha from my wife (who before her marriage to me in 1953 taught pharmacognosy in Berlin) and me,

Otto Segeuer

Pittsburgh

From the Bulletin of the
Pacific Orchid Society of Hawaii
Vol. 23 no. 1. 1965

ORCHIDS OF HAWAII NEI

Otto Degener and Isa Degener

Otto Degener earned his B.S. degree at the University of Massachusetts and his M.S. at the University of Hawaii where he was botanist during 1925-27. He was awarded an honorary D.Sc. by the University of Massachusetts in 1952. He is the author of many scientific papers and books, and is best known for his *Flora Hawaiiensis*. Since 1933 Dr. Degener has been Collaborator in Hawaiian Botany at the New York Botanical Garden.

Isa Degener holds the Ph.D. degree from the University of Berlin, and was, before coming to Hawaii, with the Botanical Museum, Berlin-Dahlen, Germany. She has collaborated in botanical collecting and writing with her husband.

During 1964, the Degeners made a world trip and wrote the 30,000th master label for a collected specimen! These were two important events in an eventful life for both of them. Since for each specimen collected, an average of ten duplicates are collected for herbaria around the world, this means that Dr. Degener, at first alone and later with his wife has collected about a quarter of a million specimens of Hawaiian flora since 1920!

Thanks to half-truths that visitors and residents continually read in newspapers and garden magazines, and hear from tour directors and taxi drivers, Hawaii Nei is a land of orchids. This is true NOW, thanks to the efforts, particularly within the last few decades, of orchid fanciers and breeders. The many that constitute the former have scoured the earth personally, or have financially supported search for the most showy species, varieties, forms, and clones we see here. The few that make up the latter have, in addition, developed horticultural kinds, largely by hybridization; these are of such devastating beauty that orchid enthusiasts throughout the world come to our market place to enhance their collections. We do not know who first introduced an exotic orchid into the Hawaiian Islands—was it Manini with vanilla, a whaler, Hillebrand, or Lyon? We hope one of our readers may know and will kindly inform us. Such idealists and professionals never adequately received the credit they deserve for beautifying our gardens, and the necks and bosoms of our travelers.

Few visitors, and even the residents, realize that Hawaii is conspicuous for

the paucity of a native orchid flora. In fact, this particular flora is limited to three genera, listed in 1888 by Hillebrand in his *Flora of the Hawaiian Islands* as *Liparis*, *Anoectochilus* and *Habenaria*. All botanists agree that some of our orchids belong to the genus *Liparis*; not all agree with Hillebrand, however, that the remaining species belong to *Anoectochilus* and *Habenaria*.

Though none of our few native orchids—all endemic—are showy, they are nevertheless extremely important and interesting from an academic standpoint. Why are there so few native kinds in the Islands when, obviously, conditions are so favorable for the growing of this family? We know that the latter is true from the success growers have had in cultivating exotic species, and the tendency for some, like *Spathoglottis plicata* Blume, *Phajus tankervilleae* (Banks) Bl., and some kinds of *Arundina*, to escape into our fields and forests.

Did no other orchids come here in prehistoric times because air currents were not such as to transport viable seed to our isolated island chain? Is perhaps the paucity of migratory birds,

which normally carry seeds on their oily feathers or swallow orchid capsules, a cause? Is it perhaps the absence of the proper mycorrhiza in the *baole*-undisturbed Hawaiian soils which prevented other species from establishing themselves here? Or is it none of these but some entirely different, mysterious reason? At present we simply do not know the answer to this fascinating riddle.

Horace Mann, son of the famed educator, described "*Liparis Hawaiensis*," the Hawaiian rwayblade or *awapubiakanaloa*, in *Proc. Am. Acad. Sc.* 7: 207, 1867. Following the International Code of Botanical Nomenclature, printed in 1961, Recommendation 73F, it is incorrect to capitalize the geographic name; also, according to Recommendation 73D, the correct termination for *hawaii* is *ensis*. We therefore believe the proper orthography for our species to be *Liparis hawaiiensis* H. Mann.

Though Mann stated that *L. hawaiiensis* grew "in mountain woods on trees," he neglected to mention the precise island from which the type specimen (Mann & Brigham No. 471) came. Does the specific name apply to the island of Hawaii, as we suspect but do not know, or to the Hawaiian (or Sandwich) Islands as a whole? His description of the flower, "*labello obovato integerrimo vel crenato concolor (flavido)*," is not much help since this appears to apply to two distinct taxa. According to Article 7 of the Code, the name *L. hawaiiensis* applies only to Mann & Brigham's specimen number 471 and to plants conspecific with it. Thus far, we have been unable to study this specimen to determine precisely what this taxon is like. To do so is basic for untangling the

nomenclature of *Liparis* in the Hawaiian Islands.

Liparis hawaiiensis has been recorded from all the major islands of our archipelago, including Lanai. The plants inhabit forests at low to medium and rarely higher elevations, growing mostly epiphytically and on moss-covered bases of tree trunks; also occasionally on the ground. Actually, a plant may be years old, but only that part grown in the last two years is alive. The living plant consists of a creeping, abbreviated, root-bearing rhizome topped by an erect, pale-green pseudobulb ensheathed by several dying or dead bracts, and bearing two dying or dead leaves toward the top. The few-capsuled raceme, now dead and freed of its myriad seeds, seems to arise from the uppermost axil. With the coming of a new season, the remaining food and moisture in this old pseudobulb is evidently translocated to form a fresh unit, consisting of rhizome, roots, pseudobulb, bracts, two or "rway" leaves, and scape with greenish-yellow flowers, and, eventually, capsules and seeds. Such a rwayblade is particularly suited for an ecological niche subject to prolonged drying because of the two draught-resistant pseudobulbs.

Because most growers stress the beauty of orchids rather than their academic interest, no one has as yet cultivated Hawaiian specimens of *Liparis* from the different islands and mountain ranges of Hawaii under controlled, uniform conditions to see how they may vary. We know that they do, because of specimens deposited in the herbarium of the B.P. Bishop Museum, but are these variations of genetic or ecologic origin, or perhaps both? We, who lack the green thumb for such an

undertaking, should be fascinated to learn whether all specimens of *Liparis* from the different regions are truly *L. hawaiiensis* *sensu stricto* or whether several forms, varieties or even species masquerade unjustly under this binomial. The same interest applies to untangling the relationship of probably a number of different taxa in our remaining native orchid genera. The study of herbarium specimens, we wish to repeat, is not always precise enough for coming to such critical decisions.

The second endemic orchid mentioned by Hillebrand is *Anoetochilus "Sandwicensis"* with a var β , the latter apparently synonymous with *Odontochilus Jaubertii* Blume (Orch. Archip. Ind. 81. 1858.) and *Anoetochilus Jaubertii* ascribed to Gaudichaud in Voy. Bonite 3 : 92. 1866, the plate 100 depicting it having appeared in 1847-48. According to a 1944 article by Ivan Johnston (Jour. Arn. Arb. 25.), Gaudichaud encountered personal and other difficulties with the result that we are not always quite sure those species ascribed to him were actually described by him and not by some one else.

L. O. Williams and F. R. Fosberg described a plant from Molokai as *Anectochilus apiculatus*, using a wrong spelling since *Anoetochilus* became the conserved orthography according to page 248 of the Code. Other botanists believe *Anoetochilus* is not represented in the Islands at all, but that *Vrydagzamia* is the proper genus. L. O. Williams states (in A. C. Smith in Sargencia 1 : 9. 1942.) that *Odontochilus* and *Anoetochilus* "are separated on rather recondite characters . . . It is possible that a generic study of this group will show *Odontochilus* to be the same as *Anectochilus*." Skorts-

berg,* one of the most erudite of Hawaiian taxonomists, agrees with Bentham that our *A. sandwicensis* is properly *Odontochilus sandwicensis* (Lindl.) Benth. & Hook. f., correcting Lindley's original spelling of *sandwicensis*. Selling (B.P. Bishop Mus. Spec. Publ. 38 : 368. 1947.) follows suit. As both species are congeneric, we here rename the Molokai plant *Odontochilus apiculatus* (Williams & Fosberg) Deg. & Deg., relegating *A. apiculatus* Williams & Fosberg (Fosb. in Bull. Torr. Bot. Club 70 : 387. 1943.) to synonymy.

Our endemic representatives of *Anoetochilus* are still rarer than the uncommon Hawaiian cwayblades, perhaps because the conditions for growth that they require are rarer. Thanks to a grant from the National Science Foundation for botanical studies on Lanai, a few months ago we discovered one of these plants, without flower, at about 3,000 feet elevation near Lanaihale; this is apparently where G. C. Munro collected it over 35 years ago. The previous lowest elevation for the genus was the 4,000 foot summit of Kaala, Oahu. Hillebrand records the species *s.l.*, from "the lower forests of all islands" and "in woods of Hilo, Hawaii!" If Hillebrand is correct, it grows from such low elevations as the latter up to zones where frequent fogs and rains create the proper biological niche. The plants thrive on almost pure, oozy mud, usually so intensely shaded by dense upper vegetation that hardly another plant can compete with it. This plant bears a long, thick, fleshy, purplish-chestnut, creeping stem, at the apex of which broad, *honohono*-like, i.e.,

* Acta Horti Gotob. 2 : 219. 1926; 10 : 103. 1936; 15 : 344. 1944.

Commelina-like leaves arise. These leaves, like the fronds of the shade-loving filmy fern *Vandenboschia cyrtotheca*, appear as if they had been dunked in kerosene. The flowers, borne on a terminal spike, are, according to Hillebrand, yellow with or without a few pinkish spots, with a lip that may be entire to denticulate, or even serrulate, or fimbriate. When a single species, perhaps even a single plant, is reported to have a flower of one or several colors, and a lip of variable shape, we suspect further study is desirable. May not the Hawaiian Islands flora, under the name *A. sandwicensis* Lindl., and *Vrydagzynea sandwicensis* Benth. & Hook. f., contain numerous different taxa, including natural hybrids between them? This is more than likely, otherwise why would Gaudichaud, a keen botanist, have described and illustrated the Hawaiian *A. joubertii* (Bl.) Gaud., from our archipelago, a fact generally ignored by local workers? What a challenge the unangling of specific, varietal, and formal status of such local plants would be to a group of orchid experts.

Though the senior author has concentrated on the study of Hawaiian flora since 1922, and has spent more days in the field than any other botanist, dead or alive, he has collected only a single specimen of the native rein-orchis known by "lumpers" as *Habenaria holocbila* Hillebr., and by "splitters" as *Platanthera holocbila* (Hillebr.) Kränzl. This lone specimen grew at the edge of a clump of shrubs in Lehuamakanoi Bog, Kauai, there associated with such herbs as *Drosera*, *Oreobolus* and *Viola*. As this particular afternoon in 1926 was densely foggy, and the U.S. Geological Survey map of

the time inaccurate, he distributed this plant and others, wrongly, as coming from Waianae Swamp. The Hawaiian rein-orchis always has been exceedingly rare, and presumably lacks a Hawaiian name. According to the literature available, and herbarium specimens known to us, it grew on Kauai, Oahu, Molokai, and Maui, apparently in montane bogs. This orchid grows to a height of two or more feet, and bears greenish flowers. Since they have a spotty distribution which discourages hybridization, and stimulates inbreeding, is it safe to assume that all the endemic rein-orchis specimens belong to the same taxon? We think not.

We have mentioned briefly some of the unsolved mysteries of the origin and the systematic positions of the modest-looking but academically fascinating orchids of Hawaii Nei; one great mystery remains: Why has no local orchidologist tried to solve these problems?

68-617 Crozier Drive, Waiāluā, Oahu

This article by Dr. Degener has been held back for several months in hopes that the *Liparis* at Foster Garden would bloom so that a line drawing might be made to accompany the article. Ted Green has been watching the plant for months. He states that he can pin-point the exact spot on Oahu where *Liparis* grows and where the Park specimen was taken. Perhaps other readers in the Islands, finding one of the native orchids in bloom will notify the editors of the Bulletin or Mr. Green at the Honolulu Botanic Garden, so that arrangements may be made for a photograph or a drawing.

Editor

This page only to Rev. Green 11/5/26

UNIVERSITY OF MADRAS

University Centenary
Buildings, Chepauk,
Madras-600 005.

No: Ph.D./

From

Major P. KUTTIAPPAN,
CONTROLLER OF EXAMINATIONS.

23 JAN 1985

To

- 1) Dr. E. Govindarajalu, (Supervisor-Convenor),
Chief Professor of Botany, Presidency College,
Madras - 600 005.
- 2) Dr. P. Kachroo, Head of the Department of Botany,
Department of Botany, University of Kashmir,
Srinagar - 190 006, Kashmir.
- 3) Dr. Otto Degener, P.O. Box 154,
Volcano, Hawaii, 96785, U.S.A.

Gentlemen,

I have the honour, by direction, to invite you to be Members of the Board of Examiners to adjudicate on the following thesis* submitted for the Degree of Doctor of Philosophy (Ph.D.) by Thiru P. Marthamoney.

A copy of the Synopsis of the thesis submitted by the above candidate is enclosed.

An honorarium of Rs. 50/- will be paid to Each Examiner.

It will be appreciated if the reports on the thesis are sent to the Convenor not later than two months from the date of receipt of the thesis, under intimation to this office.

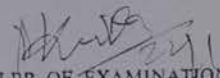
On hearing from you signifying your acceptance to value the thesis, a copy of the thesis and a copy of the regulations governing the degree will be sent to you by Registered Air-mail/Parcel Post.

The other Members of the Board are requested to communicate their opinion (Individual Report) on the thesis to the Convenor, who will forward the same to this office together with his/her own report and the consolidated recommendation of the Board, as to whether the candidate's thesis is worthy of being accepted for the Degree or not.

The Convenor of the Board of Examiners (at No. 1 above) is the Supervisor of the candidate under whose guidance the candidate has worked for the Ph.D. Degree.

I shall be glad if you will kindly let me have your acceptance of this offer by return of Post/Air-Mail. Members of the Board are also requested to communicate their acceptance of this offer to the Convenor at the above address.

Yours faithfully,


CONTROLLER OF EXAMINATIONS

* Title of Thesis : "Taxonomy, Anatomy and Palynology of South Indian
Ficus" (Botany)

SYNOPSIS OF THE THESIS ENTITLED
"TAXONOMY AND COMPARATIVE ANATOMY OF SOUTH INDIAN FICUS" Taxa
A

By

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Out of 112 species of Ficus recorded by King in Hook. Fl.Br.Ind.5 (1888) 494-537, 27 of them are known in South India (Fischer in Gamble's Fl.Pres.Madras, III (1928) 947-956. The taxonomic revision and the vegetative anatomical studies of this genus form the theme of the thesis.

In view of the fact the taxonomic account of the species as given in Hook. f. Fl.Br.Ind. (l.c) as well as in all the regional Floras appears to be rather vague and confusing in as much as the interspecific differences among the related taxa and among those belonging to a section are not clear and distinct. This situation has been ameliorated by providing a detailed description highlighting the differential characters supported by suitable illustrations thereby the characters of diagnostic importance are blocked out, the identification of the species is rendered easy and the understanding made better.

For the majority of the species new, interesting as well as additional informations pertaining to the phenology and ecology have been gleaned by way of personal observations. In a few cases incomplete and inaccurate information in this respect has also been rectified.

Distribution maps are presented for the individual species and for each and every section.

: 2 :

The synonyms for each and every species have been checked up. In the case of few species, the synonym^s that are wrongly cited in earlier works have been removed. For example, Ficus mollis Vahl which happens to be an altogether different species has been wrongly cited by King (l.c.), Corner (1977) and several others as a synonym of F. tomentosa Roxb.

The typification of the taxon which is wanting has been brought in to vogue in accordance with International Code of Botanical Nomenclature.

The identity of most of the species has been checked by referring to Wallichian types available in microfiche.

For want of dichotomous type of key in Hook.f.Fl.Br.Ind. (l.c.) the identification of the species often becomes difficult. Likewise the key given by Fischer in Gambles Fl.Pres.Madras (l.c.) becomes difficult to follow due to its ^verbose and lengthy nature being based on more number of characters common to related species. Therefore indented type of key becomes necessary and is presented based upon minimum number of clearcut characters both for identification of species and sections. The sectional characters have been revised and circumscribed with reference to South Indian taxa.

It is quite revealing to find that comparative anatomical studies of petiole, leaf, bark and wood provide considerable amount of interesting informations of diagnostic importance and for theoretical considerations. The structural details are so remarkably variable that they are profitably used not only for the sake of better understanding and characterization of the species, but employed as

corroborative evidence for prescribing interrelationships among them.

Furthermore there is a paucity of anatomical information particularly for South Indian species which is compensated by the present work. From the observations of secondary xyla (based on transections and macerations alone) of the majority of the taxa it becomes obvious that the xylary tissue components seem to have undergone high degree of evolutionary modifications thereby reflecting the attainment of the most advanced condition in terms of possessing in general very short and broad vessels with simple porous perforations, alternate intervascular pittings, storied arrangement, libriform and septate fibres, aliform and confluent parenchyma and homogeneous rays etc. With reference to these specialized anatomical characters phylogenetic status of the different taxa at the species and sectional levels have been evaluated. Thus it has also become possible to propose a probable phylogenetic picture as far as South Indian species are concerned. Utilizing the anatomical characters a key is also presented.

The palynological information is scarce and scattered for such a large genus as Ficus. Nevertheless the South Indian species studied from this standpoint reveal certain interesting information which is useful for better understanding of and for fixing up relationship among the species. This genus seems to be palynologically more or less eury^{tr}paly~~tr~~ous. The morphology of the achenes and stamens was received hitherto little attention and sometimes overlooked by earlier authors. The characters thus obtained are found to be significant and characteristic of some of the species and therefore such information has been given importance and incorporated in the

descriptive account of the species concerned. Ficus corneri and F. sadrasensis are the two new species reported in the work.

Ficus macrocarpa and F. guttata are not only kept as two distinct species in contrast to the infraspecific status accorded to the latter by Corner (1965) and others but new specific epithet has been proposed for the former since it happens to be a later homonym. Furthermore the distinctness has been strengthened by their respective vegetative anatomy.

For most of the species certain number of discrepancies has been observed in the taxonomic account and they are carefully and critically amended.

The economic importance and certain other interesting legendary accounts are given.

Ramirez (1977) realizing the importance of symbiotic relationship and specificity between the agaonids and the plant species in relation to taxonomic classification of Ficus has recently proposed a new classification. Following his method, the insect symbionts harbouring South Indian species of Ficus have been identified in order to test the utility of such an approach and compare it with the conventional method of internal classification.



Feb. 7, 1985

Major P. Kuttiappan
Controller of Examinations
University of Madras, Chepauk
Madras - 600 005, India

Dear Major Kuttiappan:

I just received your letter of Jan. 23 inviting me to be one of the three members of your Board of Examiners concerning the Ph. D. thesis by Thiru P. Masilamoney about the "Taxonomy, Anatomy and Palynology of South Indian Ficus."

I accept your kind offer of being one of the examiners of the thesis on the one condition that the \$50 honorarium be added to the University of Madras Fund for deserving needy students.

Incidentally I might add that my father (1844-1916), born in Brunswick, Hannover, was a business agent in Calcutta, Singapore and elsewhere in the Orient for a German firm for three years in the 1860s. I remember his telling me that he and a few young German friends attended a public hanging in Calcutta and, as a result, had difficulty sleeping nights for some weeks. His observation of some few of the German missionaries in the Orient was quite prejudicial to such an extent that I and siblings were automatically raised sincere atheists.

I taught Botany at the University of Hawaii in Honolulu. In 1926 I had in Freshman Botany an Indian student by the name of Jain. After so many years I cannot recall his first name. He was older than his classmates, very studious and apparently unusually interested in our local sugar industry. At the end of the school year, before his return by steamship to India, he invited me and every other Faculty member whose Course he had attended, to a splendid farewell dinner in one of our best hotels! Memory of this gracious act of course prompts my wish regarding the honorarium.

Mrs. Degener, a professional Botanist trained in Freiburg and Berlin-Dahlem, and I enjoyed a stopover in 1975 in New Delhi on our flight to the International Botanical Congress in Leningrad.

Aloha,

Sr. Otto Degener

Staff Member, New York Botanical Garden,
Resident in Hawaii

Hunt
L.D. Ott
P.O. Box 154
Vekano, Hawaii
96785 U.S.A.

Feb. 9, 1985

Dear Supt. Ames:

We are prompted to express serious concern and opposition after reading a copy of Resources Management Specialist Don Taylor for Tim Tunison about the "Environmental Assessment: Proposed Drilling at Puhimau Hydrothermal Area", dated Jan. 25, 1985, and copies of several pertinent letters. The National Parks should be in violation to such well intentioned violation! It would be debasing in the eyes of the general population of the United States, debasing to the standing of National Park employees, and would reduce the present high regard U.S., and foreign tourists have of them. To consider National Parks subject to Environmental Impact Statements is an affront to the memories of the devoted and outstanding experts like Director Stephen Tyng Mather who have developed so many of them. Should the National Park Service permit one private ~~one private~~ concern to work about the Puhimau area, another about the Thurston Lava Tube area and a third or fourth perhaps in some kipuka, our Government is opening an ever enlarging slit in the door to fling it wide open to debase their shrine-like quality. Weakness in upholding the past high standards will establish a precedent for the degradation of all our National Parks. If Hawaii Volcanoes National Park in the '80s allowed commercial interests to make a laboratory out of part of it why, will many maintain, can we not do so in Yellowstone, Sequoia or Mt. Desert? It will be the beginning for everlasting problems presently unnecessary for the Department of the Interior to handle.

Changing the name of Hawaii National Park to Hawaii Volcanoes National Park and thus focusing more attention to its volcanic features instead of to its entire unique character including a last refuge for many endemic animals and plants was a great disappointment to us. But now that even these volcanic features may face man's interference and destruction is beyond our comprehension. Our National Park is the last stronghold we have, especially now with the neighboring, imminent destruction of the few unique Hawaiian forests remaining by woodchipping, geothermal developments, subdivisions, guava and papaya plantings, etc., beyond its immediate borders.

I am a bit hesitant as I do believe politics and religion should be kept apart, yet here I seem to make an exception. Of all fifty States of this Nation, the citizens of Hawaii include sincere believers in Faiths with many different doctrines from Polytheism, Monotheism to Atheism. The believers have their Assembly Halls, Churches, Synagogues and Temples to meditate and pray. An increasingly larger proportion of Scientists and ordinary citizens ascribe the existence of the World - in fact, of the Universe - to what they ascribe to the Laws of Nature. Their place for Meditation and Peace is no building; but the relatively unspoiled areas wisely chosen by many of our betters as "National Parks. They are sacred to them and kapu to desecration. Should we crude, clumsy creatures alter the environment, and should we exterminate the fascinating animals and plants which God or the Laws of Nature have created? I think not. National Parks are our ideal OUTDOORS to visit for the good of our Souls; a bit of Paradise on Earth.

Aloha,
Dr. Otto Degener
Dr. Jan J. Degener

Staff Members, N.Y. Bot. Garden
P.S. "Business letters" like this involving biological problems we refuse to omit name of recipient. We add a title like "KAPU" & then distribute xeroxes to potentially interested individuals and institutions with shipments of our Flora Hawaiensis copies and herbarium specimens. Such brief articles are in the public domain. They often get to archivists who file them away or discard them.

Hunt

Graduated with Botany my chief interest, I left New York City to visit Hawaii in 1922 as a typical tourist. The outstanding event was sightseeing in and about Kilauea in August of that year, the chief accessible attraction of Hawaii National Park. The second was the remarkable surrounding vegetation. From that time on I resolved to publish an illustrated Flora of the Hawaiian Islands. I therefore attended the University of Hawaii in Manoa for an advanced degree and, during 1925-27 teaching Botany there. A highlight in Honolulu was my meeting Stephen Tyng Mather (1867-1930), the inspirational First Director of the National Park Service. He was the leader of the First Pan Pacific Conference on Education, Reclamation & Recreation held in the Moana Hotel at Waikiki. I, one of the few participants, concentrated on describing the unique character of the National Park of course mainly from the botanical standpoint, some of my remarks appearing in the bound Report of the Proceedings on pages 440 and 441 in 1927.

Dissatisfied with employment under jurisdiction of the Territory of Hawaii and inspired by the high ideals of Director Mather of our Federal Government, I became the first Naturalist of Hawaii National Park, including lands on Hawaii and Maui under Supt. Thomas J. Allen. I delivered practically the same one hour routine lecture with lantern slides and a movie reel sometimes thrice a day to three different groups of tourist visitors arriving in Hilo on palatial liners. Evenings, I gave impromptu twenty minute talks after supper at the fireside of the Volcano House, a building since razed by fire. Learning what interested the average tourist most, I resigned to live in the Volcano House for almost two years, concentrating on writing and publishing my profusely illustrated "Plants Hawaii National Park". It appeared in board cover in 1930

Voucher specimens for verification of the material collected within the Park area for my Park book and a forthcoming general Flora are preserved in the herbaria of my Alma Mater the University of Massachusetts - I was lab., assistant in the Botany Course in which Freshman Conrad L. Wirth had enrolled -, New York Bot. Garden of which Mrs. Degener & I have been staff members stationed in Hawaii for many years, the Smithsonian Institution, the Bishop Museum and fragmentally elsewhere. These collections are repositories, in a way Time Capsules, of many of the Ferns and Flowering Plants growing within the Park boundary on the early dates specified on the labels. Not all of these taxa survive to the present day! To inform a hundred or so United States and foreign botanical institutions of our Islands' botanical treasures and to stimulate research, Mrs. D., & I have been collecting specimens wholesale for export as gifts. Considering our National Parks on Maui and Hawaii especially precious we, in spite of collecting permits issued by Mr. Ames and previous Park Superintendents, limit such collecting to areas beyond the Park boundary.. I wish to add that we published our advice that it was "Time to Enlarge the Park" in the Honolulu Advertiser, in the Honolulu Star-Bulletin and in the Hawaii Tribune-Herald newspapers Sept. 22, 1977. Following our suggestion, Hawaii Volcanoes National Park would have included at an estimated cost of about \$20 per acre the outstanding more or less continuously active volcanic vent Pu'u 'O'o and a remarkable forest of endemic animals and plants threatened with imminent deforestation by logging and wood chipping.

O.S.



BUDAPEST

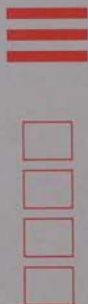


Budapest
Széchenyi



Merry Christmas and Happy
New Year

Dr. Otto and Ter. DeGener
68 617 Crozier Drive
Wailuku, Oahu, Hawaii
96791 U.S.A.



X

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Hunt
DRS. OTTO & ISA DEGENER
P.O. Box 134
Volcano, Hawaii
96785 U.S.A.
March 6, 1985

Dear Mr. & Mrs. Merwin:

Altering our activities from Oahu to Hawaii usually every two to three or rarely even six months at a time, PRINTED MATTER usually lingers in the village postoffice for some time. Then after fetching it home, it may remain neglected for quite some time. This does not happen to our First Class Mail.

We were delighted with your gifts, but I believe you erred as we often do ourselves in not scribbling a little personal note on the title page of such gifts. It adds to have such copies.

Does not your writing hit home more to Americans by the use of more strictly Anglo-Saxon words than those modified from Latin and even Greek? We also note you seldom use semicolons. It is a definite style. On the contrary, the late Dr. Thomas Jaggar, an outstanding authority on his field and the son of an Archbishop I believe, wrote profusely scientifically correct, but with a high "fog index". The thought was often difficult to follow.

"Unframed Originals" is a surprising sociological study. Mrs. D., & I never realized that type of life occurred in some somewhat rural communities in the US!

It is so different from my childhood in a sincere atheist family in crowded Manhattan in sight of Riverside's Soldier & Sailors' Monument. My parents did not believe in a punishing God whose genius socialist teacher about 2,000 years ago was, according to my modern belief, the son of a Jewish man and a Roman Centurion. I was punished beyond a rare slap most time by my mother when I knelt over a tumbler of milk on the table. For transgressions my parents would try to reason with us first. When the reasoning became complicated, a different type of reason prevailed: Ours repeating the phrase would displease them very much. To keep me from loitering on the street excessively, I was tutored in German & piano every Tuesday & Friday from BEFORE my attending school until near graduation. In fact, I was so "smart"

thanks to tutoring that I entered private Trinity School in the Second Grade. Perhaps we were so proper to avoid a possible similar fate. as one of my brothers.

This mild problem child was enrolled in St. Paul's, a good boarding school. He lived a long life, and mostly successful in one business after another: exporting reconditioned typewriters to Europe just before World War I, suffering a stroke after evacuating through the war zone from Switzerland direct to England for his trip home to NY; partially paralyzed; investing in a NY apartment building; moving to Wyoming to recuperate from the stroke; & there buying a ranch to breed cat-aloes (Hereford-buffalo hybrids); owning a goldmine near Cripple Creek which he lost by lacking cash to construct a crusher in time; investing in oil wells in Cuba which seemed promising but were not; and finally successful with wells in Texas until his death.

Though my father had emigrated to the US shortly after the Civil War to go into the wholesale textile business after cotton plantations & mills had been destroyed by the Northern Armies and was long a US citizen, my name "Otto" during World War I and II stigmatized me as a Bosch. This mild persecution may have induced me to have my friends and interests among pet skunks, birds, aquaria, snakes & attending with my parents & brothers lectures at the American Museum Nat. History. From that I graduated into a botanist though by Nature I am really a zoologist.

Enclosed are a few sheets of "otobiography" appearing in our as yet incomplete Book 7. I seem to be a case rather opposite to yours.

Now is your private hbt. garden. We hope you wont import
aliens to extermin-
ate on demic

Treasurer. Can't you limit it to true hbt taxa?

Aloha,

Otto Schreiner

MALVACEAE
MALLOW FAMILY

GOSSYPIMUM L. Sp. Pl. 1: 693. 1753

Annual suffrutescent herbs to perennial shrubs or trees, irregularly black-punctate with oil glands throughout, with terete to somewhat angular pubescent to glabrous branches that are either vegetative or sympodial (fruiting ones often reduced to peduncles or flowering spurs). Leaves alternate, simple, entire to coarsely usually 3-9 palmately lobed or ribbed, glabrous to tomentose, often with nectaries beneath. Flowers whitish to yellow or purplish, often changing in color during the day; large, solitary, peduncled. Involucral bracts 3, usually foliar to rarely minute, incised to rarely dentate, persistent to rarely caducous. Calyx urceolate, truncate through undulate to 5-pointed. Petals 5, membranous, adnate to base of staminal tube, obovate, contorted in bud. Stamens many; filaments below connate into tube but upper part free to bear anilocular horseshoe-shaped anthers. Ovary 3- to 5-locular, leav- to many-ovuled; style clavate to 5-furrowed or very rarely somewhat divided at top; stigma 5. Fruit a many-seeded dry brittle 3-5 loculicidally dehiscent capsule (or "boll"). Seeds large, exaristate or nearly so, subspherical and never reniform, the hard testa covered with 1 or 2 coats of short (fuzz or lint) to very long (lint) hair or rarely glabrate, with much-folded cotyledons black-punctate. 2n chromosome number 26 or 52.

Name used by Pliny, probably modified from the Arabic *qas*, a silky substance; moreover, the word "cotton" ultimately comes from the old Semitic word for "cotton," the material in which the mummy was swaddled.

Type Species: *Gossypium herbaceum* L.

Gossypium has a wide, natural distribution in warm and tropical regions, and therefore is presumed to be very old geologically. It is related to the endemic genus *Kohia*, probably of Old World origin. Its distribution can be explained better, we believe, by an Atlantic origin permitting its gradual northern migration, into Australia, Africa and America. To assume a more or less Equatorial origin followed by a lateral distribution with the drifting apart, according to Wegener's theory, of the continents, seems less plausible. All species of cotton with lint and a 2n chromosome number of 52 are native to America (*G. peruvianum*, *G. hirsutum*), the Galapagos (*G. peruvianum* var. *darwinii*) and the Hawaiian Islands (*G. sandwicense*). None is found elsewhere in Polynesia as *G. laevis* Parl. is not a Tahitian cotton at all but simply a form of *G. hirsutum* introduced commercially by the *hale* some centuries ago. All remaining cottons with or without lint have a 2n chromosome number of 26 and are closely related to our endemic, *G. hirsutum* of the Galapagos and its var. *darwinii* which spills over from the American Mainland to the Revillagigedo Islands. Some authorities maintain that our endemic, because of its obvious relationship to American natives, must have been transported to the Hawaiian Islands by primitive man. Though we do not doubt that Hawaiians and Indians had contact across the eastern Pacific (Degener, *Naturalist's South Pacific Expedition*: Fill, 194, 1949.), we do not follow the belief that our cotton arrived here by human agency. The plant's endemicity points to its isolation long before man ever reached our archipelago. Furthermore, if the two native cottons did not reach the Galapagos like the tortoises by a land bridge, ocean currents are the most plausible means; certainly no land bridge ever existed for the var. *darwinii* to reach the Revillagigedo Islands. The presence of a cotton in Hawaii Nei with relatives in America is no greater mystery than the presence here of such other capular plants as the native *Abutilon incanum* and the endemic taxa of *Argemone*, all with close New World relatives.

KEY TO LOCAL SPECIES OF GOSSYPIMUM:

1. Seed with tawny hair of two kinds up to 10 mm. long and not readily detached from testa; leaves without nectaries; staminal column short and with free part of filaments long and more or less connate in pairs; flowers at anthesis pale sulphur yellow and wilting often greenish; perennial shrub; bracteole teeth triangular and less than thrice as long as broad; capsule about 1.5 cm. long, ovoid, smooth, black-punctate (Most islands; endemic)..... *G. sandwicense* Parl. (Syn. *tomentosum*).
1. Seed with white hair of two kinds: thick short fibers (fuzz or lint) not readily detached from testa and long convolute fibers (lint) readily detached; leaves with nectaries; staminal column with free part of filaments not connate in pairs; flowers at anthesis usually creamy white to lemon yellow and wilting pinkish; annual suffrutescent herbs to perennial trees; bracteole teeth mostly more than thrice as long as broad:
 2. Stamens with free part of filaments short and subequal; flowers at anthesis usually lemon yellow; annual suffrutescent herbs to perennial shrubs; bracteoles usually with 10-15 almost linear teeth; capsule 3.5-8 cm. long, tapering to one or both ends, rough to rarely smooth, pitted with oil glands (Cult., & persistent)..... *G. peruvianum* Cav., & vars. (excluding the foreign var. *darwinii* with capsule less than 3 cm. long and seed hair tawny)
 2. Stamens with free part of filaments toward base of staminal column shorter than those toward apex; flowers at anthesis usually creamy white; annual suffrutescent herbs with few or no vegetative branches to perennial trees with abundant vegetative branches; bracteoles with 4-12 almost linear teeth; capsule rounded to tapering, small to large, faintly to conspicuously black-punctate (Cult., & persistent)..... *G. hirsutum* L., & vars.

*Following Prokhorov in *Taxon* 8(2): 41-46, 1959, *G. peruvianum* Cav. is the correct name for *G. brasiliense* sensu Degener, Fl. Haw. 11/5/38. Similarly, *G. peruvianum* var. *brasiliense* (Macf.) J. C. Heronimus becomes the correct name for *G. brasiliense* Macfadyen, Fl. Jamaica, 1: 72, 1851; and *G. peruvianum* var. *darwinii* (Watt) Deg. & Deg. the correct one for *G. darwinii* Watt, Wild & Cult. Cott. Pl. World, 68, 1907.

Published
(Degener & Degener) 6/30/65
Edited by Mrs. William Mitchell

Degener's New Island Flora Of Public Interest

200 Excellent Drawings
Of Hawaiian Plants
Included

Flora Hawaiensis, the new illustrated flora of the Hawaiian Islands, by Otto Degener. Books 1 and 2, 1932-1933. (\$3.50 each.)

Review by E. H. BRYAN, JR.*

Pictures speak a universal language. To understand a scientific description one must first learn the technical language of the scientist; but even a little child should be able to recognize a well drawn picture.

That is the main reason why we believe that the general public should hear more about Otto Degener's illustrated flora of Hawaii. Now that his second volume is completed and on the market, there are available 200 excellent drawings of Hawaiian plants. Each drawing depicts a different species, some native to the islands, some introduced.

By this time professional botanists are well acquainted with this loose-leaf flora; so it is not to them that this review is addressed. Rather, we hope that it will serve as an introduction for this valuable publication to some of the thousands of students, teachers, parents, lovers of Nature and of the great out-of-doors, and visitors to Hawaii, who may want to know more about the plants which grow in our forests, our

gardens, along our streets, even in wayside fields.

A GOOD BEGINNING

The reader should not yet expect to find in this a complete flora of Hawaii. Degener has undertaken a tremendous task, which will occupy his time and resources for many years to come, if he succeeds in carrying out his plan. It has been estimated that there are at least 2,500 species of flowering plants and ferns in Hawaii. The 200 species pictured and described to date are thus but a good beginning. But they include many kinds concerning which inquiries are frequent, as well as several new species; and already a very useful and valuable contribution to the subject has been made.

The arrangements, in loose-leaf form, is capable of indefinite expansion and revision. The pages are not numbered, but are arranged according to a simple but ingenious system of classification. Or, for that matter, the pages may be removed and rearranged in any way the owner may choose.

For each species one side of the page holds the illustration, the other the printed data. The drawings show the leaves, flowers, fruit, and details of important parts. The other side sets forth the scientific and common names of the plant family, genus, species, and authority; reference to the original description of the plant, and other names by which it has been known and their references; a careful description of the plant; its type locality, local range, and other regions in which it is known. At the top of the page is the key number and names by which the pages may be arranged, or by which the species may be found in the book.

Although but 100 species are given in each volume, these contain around 300 pages, for there

are pages which discuss the families and genera of plants and give keys by which these and the species may be separated; and indices will be included.

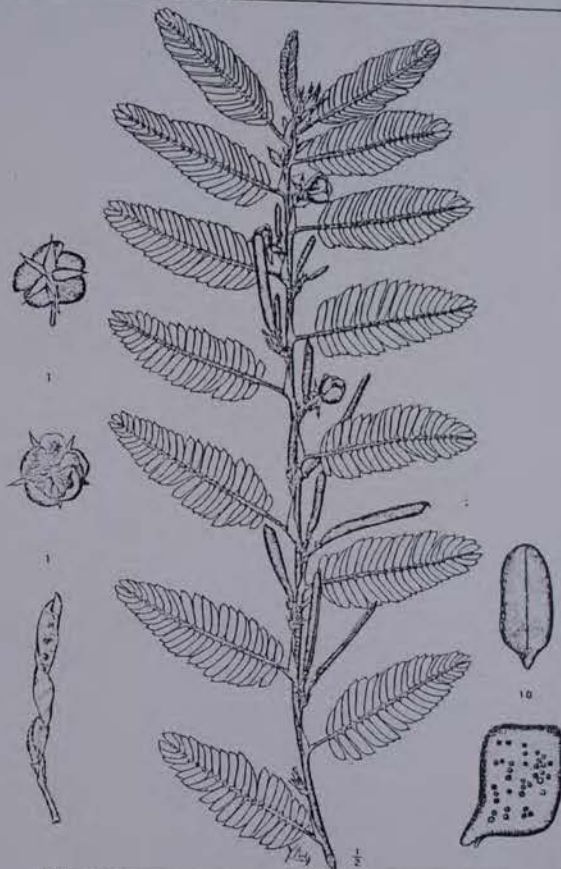
EXPERIENCED BOTANIST

Degener has been in Hawaii since 1922, and during this time he has been an energetic and enthusiastic student of the plants of these islands. For a time (1925-27) he taught systematic botany at the University of Hawaii, and he was also Naturalist at the Hawaii National Park in 1929. He has built up one of the largest private collections of Hawaiian plants in existence, numbering between 40,000 and 50,000 specimens. Two years ago he took his specimens back to the New York Botanical Garden, which contains one of the finest herbaria, especially of Pacific Island plants, in the world, and made an intensive study of Hawaiian species. Recently he returned to Hawaii.

At his own expense he has employed and developed several collectors and student artists, who have assisted him in collecting plants and making drawings of them. In 1930 he published an excellent "Illustrated Guide to the more common or noteworthy Ferns and Flowering plants of Hawaii National Park," which in addition to being what its name suggests gives much information about ancient Hawaiian customs and plant usages, and notes on the geologic history of the islands.

Copies of these books may be obtained from the Honolulu Paper Co. and other book stores, or they may be obtained directly from Degener at 2220 University avenue, Honolulu. Although we may not all agree with Degener's nomenclature, for it is hard to see old established names supplanted by new ones, nevertheless these books contain a wealth of valuable information, and the illustrations are excellent. They are to be commended to anyone interested in Hawaiian plants.

A Hawaiian Plant



FROM NEW FLORA—This attractive drawing of the familiar, wayside partridge pea is an example of the high quality of illustrations of Hawaii plants to be found in Otto Degener's new Illustrated Flora of the Hawaiian Islands.

*Curator, B. P. Bishop Museum, Honolulu.