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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.

## VIDEANT CONSULES

La Redacción de la Revista Sudamericana de Botánica recibió, de su antiguo colaborador OTTO DEGENER, de la Universidad de Hawaii, la siguiente comunicación que merece ser leída y observada, también en nuestro Continente. Se trata de un caso típico, desgraciadamente no muy raro, en ciertos países nuevos, de que el Gobierno, por intermedio de la Universidad u otra autoridad, publique, costeanado la impresión, un trabajo "botánico", sin preocuparse de los errores que contenga y de los efectos y consecuencias que tal obra produzca en los círculos científicos del país y del extranjero.

"HAWAII'S CROP PARADE", by DAVID LIVINGSTON CRAWFORD, Ll. D. 305 pp: \$ 2.50. The Advertiser Publishing Co. 1937.

The writer fully realizes that it is hazardous for people living in glass houses to throw stones. Perhaps a book review should be written by some one who has never published anything and hence has never made an error, at least officially in print. Nevertheless, here, the hazard is accepted because of the unusual circumstances surrounding the case.

When a book under authorship of a university president appears, it is bound to attract attention. Hundreds, perhaps thousands, of copies find their places upon the shrine-like shelves of public libraries and schools among standard works of reference. The statements made in such books are accepted as authoritative, in fact, as Gospel Truth by the great majority of readers. They have usually been checked and rechecked by the author to reduce errors as far as humanly possible, in fairness to the implicit trust placed in such books by the reading public.

President DAVID LIVINGSTON CRAWFORD's "Hawaii's Crop Parade", an attractively bound book of 305 unillustrated pages appears at first glance to belong to such a library shrine. It deals chiefly with the introduced flora of the Islands, not with the native plants that bloom relatively unknown on our mountainsides. It concentrates on "A review of useful products derived from the soil in the Hawaiian Islands, past and present". After devoting 31 pages to "Agricultural Prospecting" and a very readable chapter to the "Historical

*Not to embarrass author any further yet to put  
my plant identifications on permanent record  
I chose for publication one of the journals unknown  
to Hunt, readers. O.D.*

Outline of Agriculture in Hawaii", the author parades various crops before us in alphabetical order. On the first page stand, for example, Abaca, Acacia, Akala, Alcohol, while on succeeding pages hop, skip or jump in quick array such subjects as Avocado, Bats, Coffee, Date, Elephant Grass, Frogs, Goats, Horses, Ironwood, Java Plum, Lettuce, Macadamia Nut, Ostrich, Pineapple, Sugar Cane, Taro, etc. This parade, after dealing with a good 300 distinct topics, ends on page 289 with Yard-Long Bean and Yerba Mate. The expected straggler, *Zizyphus jujuba*, had found his place among the Js. In general, the crop parade is a compilation, as the footnotes show, gathered from many rare and valuable sources. It seems, however, to the reviewer that the chaff was not carefully and critically sifted from the grain before the book went to press. The result is a work that confuses rather than instructs. Even the average intelligent reader cannot possibly glean its wealth of golden grain from beneath the distorted straw left by the quickly moving reaper.

The reviewer, a former colleague who taught Botany at the University of Hawaii about ten years ago while the author taught Entomology there, suggests that an Errata be added to the volume. The owner of a copy might use the blank pages—13 have been provided—just within the cover for this necessary evil. Corrections could begin with changes like the following:

## TABLE OF ERRATA

AUTHOR'S NAME	CORRECTED NAME
(Akala) <i>Rubus Macraei</i>	<i>R. hawaiiensis</i>
(Akala) <i>Rubus hawaiiensis</i>	<i>R. Macraei</i>
(Arrow Root) <i>Tacca pinnatifida</i>	<i>T. hawaiiensis</i>
(Avocado) <i>Persea gratissima</i>	<i>P. americana</i>
(Bean Sprouts) <i>Glycine hispida</i>	<i>G. soja</i>
(Blackberry) <i>Rubus</i> spp. from temperate zone	<i>R. penstans</i> from Florida
(Breadfruit) <i>Artocarpus incisa</i>	<i>A. communis</i>
(Broom Corn) <i>Sorghum vulgare technicum</i>	<i>S. v. technicum</i>
(Brussels Sprouts) <i>Brassica oleracea semmifera</i>	<i>B. o. gemmifera</i>
(Butterbur) <i>Petasites japonica</i>	<i>P. japonicus</i>
(Cardamom) <i>Elettaria cardamomum</i>	<i>Elettaria cardamomum</i>
(Carissa) <i>Carissa Carandas</i>	<i>C. grandiflora</i>
(Cassava) <i>Manihot utilisima</i>	<i>M. esculenta</i>
(Chaulmoogra) <i>Hydnocarpus anthelminticu</i>	<i>H. anthelmintica</i>
(Chaulmoogra) <i>Taraktogenos kurzii</i>	<i>Hydnocarpus Kurzii</i>
(Chinese Cabbage) <i>Brassica Ke-teai</i>	<i>B. pekinensis</i>
(Chinese Orange) <i>Citrus japonica hazara</i>	<i>C. mitis</i>
(Chinese Pea) <i>Pisum sativum saccharatum</i>	<i>P. e. macrocarpon</i>
(Chrysanthemum) <i>Chrysanthemum hortorum</i>	<i>C. morifolium</i>
(Cocaine) <i>Erithroxylon coca</i>	<i>Erythroxylon c.</i>
(Cotton) <i>Gossypium barbadense maratima</i>	<i>G. brasiliense</i>
(Crowfoot) <i>Eleusine indica</i> , "good pasturage"	very bad weed

- (Crowfoot) *Dactyloctenium aegyptium* is not same as *Eliensine indica*  
 (Dahlia) *Dahlia variabilis* D. pinnata  
 (Dandelion) *Taraxacum vulgare* T. officinale or T. palustre  
 vulgare  
 (Dandelion) not very abundant but rare; confused with *Hypochaeris* or  
 Reichardia  
 (Euphorbia) *Euphorbia lorifolia* Chamaesyce lorifolia  
 (Grapefruit) *Citrus grandis* C. paradisi  
 (Grasses) Some 49 species Over 100  
 (Grasses) *Bromus unioloides* B. catharticus  
 (Grasses) *Digitaria violacea* [sic] D. fuscescens  
 (Grasses) *Rhaphis aciculata* Chrysopogon aciculatus  
 (Grasses) *Tricholaena rosea* T. repens  
 (Hala) *Pandanus odoratissimus* P. tectorius var.?  
 (Horseradish) *Armoracia lapathifolia* A. rusticana  
 (Jack Fruit) *Artocarpus integrifolia* A. integra  
 (Jesuit Nut) *Trapa bicornis* T. natans  
 (Kamari) *Terminalia catappa* T. catappa  
 (Kapok) *Celba pentandra* Celba pentandra  
 (Koia) *Sterculia acuminata* Cola acuminata  
 (Kumquat, tree with 1 inch fruit) *Fortunella ja-*  
 ponica F. margarita  
 (Lima Bean) *Phaseolus lunatus* P. limensis  
 (Lotus Root) *Nelumbo nucifera* Nelumbium nelumbo  
 (Mahogany) *Swietenia mahogani* S. mahagoni  
 (Mandarin Orange) *Citrus nobilis* C. n. deliciosa  
 Mandarin Orange is different from King Orange (*Citrus nobilis*) and not  
 the same  
 (Chinese Preserving Melon) *Benincasa cerifera* B. hispida  
 (Millet) *Chaetochloa italica* Setaria italica  
 (Mustard) *Sinapis chinensis* Brassica integrifolia  
 (Passion Fruit) *Passeiflora ligularis* P. ligularis  
 (Passion Fruit) *Passeiflora ligularis* P. laurifolia  
 (Peanut) *Arachis hypogaea* A. hypogaea  
 (Perilla) *Perilla frutescens* P. f. crispa  
 (Pigeon Pea) *Cajanus indicus* C. cajan  
 (Quince) *Cydonia vulgaris* C. oblonga  
 (Rhubarb) Leaves good cooked as greens according to author and no warn-  
 ing they may be deadly poisonous (cf. J.A.M.A. 73: 926.1919)  
 (Rubber) *Manihot glaziovii* M. Glaziovii  
 (Rubber) *Hevea brasiliensis* H. brasiliensis  
 (Rutabaga) *Brassica campestris napo-Brassica* B. napobrassica  
 (Sandalwood) *Santalum Freycinetianum* only on Oahu and not elsewhere  
 (Sapota) *Achras zapota* A. zapota  
 (Soybean) *Glycine hispida* G. soja  
 (Swamp Cabbage) *Ipomoea reptans* I. aquatica  
 (Taro) Dryland varieties are extensively made into poi in Kona and in  
 similar regions  
 (Ti) *Cordyline terminalis* C. sp.?  
 (Tobacco) *Nicotianum Tabacum* Nicotiana tabacum  
 (Tree Fern) *Cibotium chamissoi* C. Chamissoi  
 (Vanilla) *Vanilla planifolia* V. fragrans  
 (Vegetable Ivory) *Coelococcus carolinensis* C. amicarum  
 (Wampee) *Clausena wampi* C. lansium  
 (Water Chestnut) *Eleocharis tuberosus* E. dulcis  
 Trapa according to "Standardized Plant Names" is Water Chestnut  
 (Watercress) *Roripa nasturtium* Nasturtium officinale

(Water Dropwort) <i>Oenanthe stolonifera</i>	<i>O. lacinata</i>
(Will) <i>Spondias dulcis</i>	<i>S. Cytherea</i>
(Willow) <i>Salix vitellina</i>	<i>S. alba</i> var.
(Yerba Mate) <i>Ilex paraguayensis</i>	<i>I. paraguayensis</i>

Scientific names, necessary for the precise identification of plants so often masquerading under different vernacular names in different regions, have no value unless correct. Careless terminology simply imparts a false impression of erudition to a publication. It may thus act as a snare to delude the unsuspecting reader into the belief that the work is highly authoritative when it is not strictly so. The "Acknowledgments" unfortunately increase this false impression by stating that several scholars, including men of the very highest repute, "have reviewed parts or all of the manuscript and made valuable suggestions". It is obviously unfair to hold these recognized authorities responsible for the many errors in botanical terms throughout the book. With an average of about one botanical error for every five pages of the parade, one questions the accuracy of Dr. CRAWFORD's descriptive text. Curiously enough, in spite of the impression that "Hawaii's Crop Parade" has the intellectual and financial backing of a fine institution, it is apparently not an official publication at all but merely the exuberant product of a versatile mind employed in research of barely secondary grade.

It is the reviewer's conviction that "Hawaii's Crop Parade" in its present form exhibits symptoms of premature birth. May it receive an early burial lest it promote the teaching of errors to thousands of impressionable pupils in high schools, and tarnish the brilliance of thousands of degrees earned by University of Hawaii students. But such a book should not be allowed to die! From its ashes (like *Phoenix*, the namesake of the date palm) should arise under the more critical aegis of the Board of Regents a fresh, carefully corrected and revised crop parade, a book deserving a place on the hallowed reference shelf of libraries. As the correcting of some technical errors has already begun in this review, the author should be able to complete his task within a year if granted a well-earned sabbatical. The completed book should be equivalent at least to the thesis required for a doctorate degree at the University of Hawaii, really a good institution here perhaps unwittingly maligned.

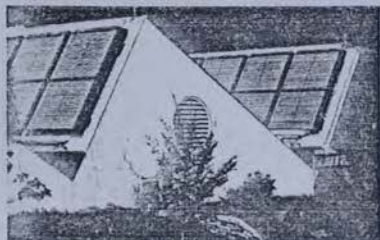
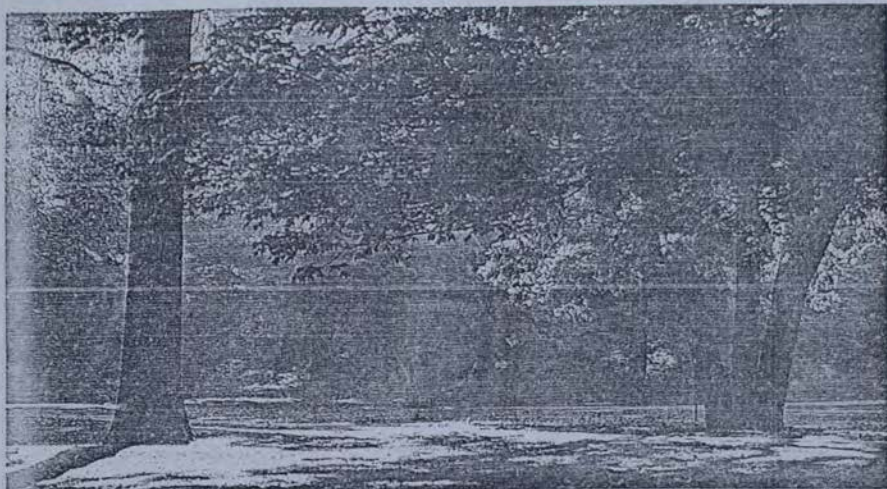
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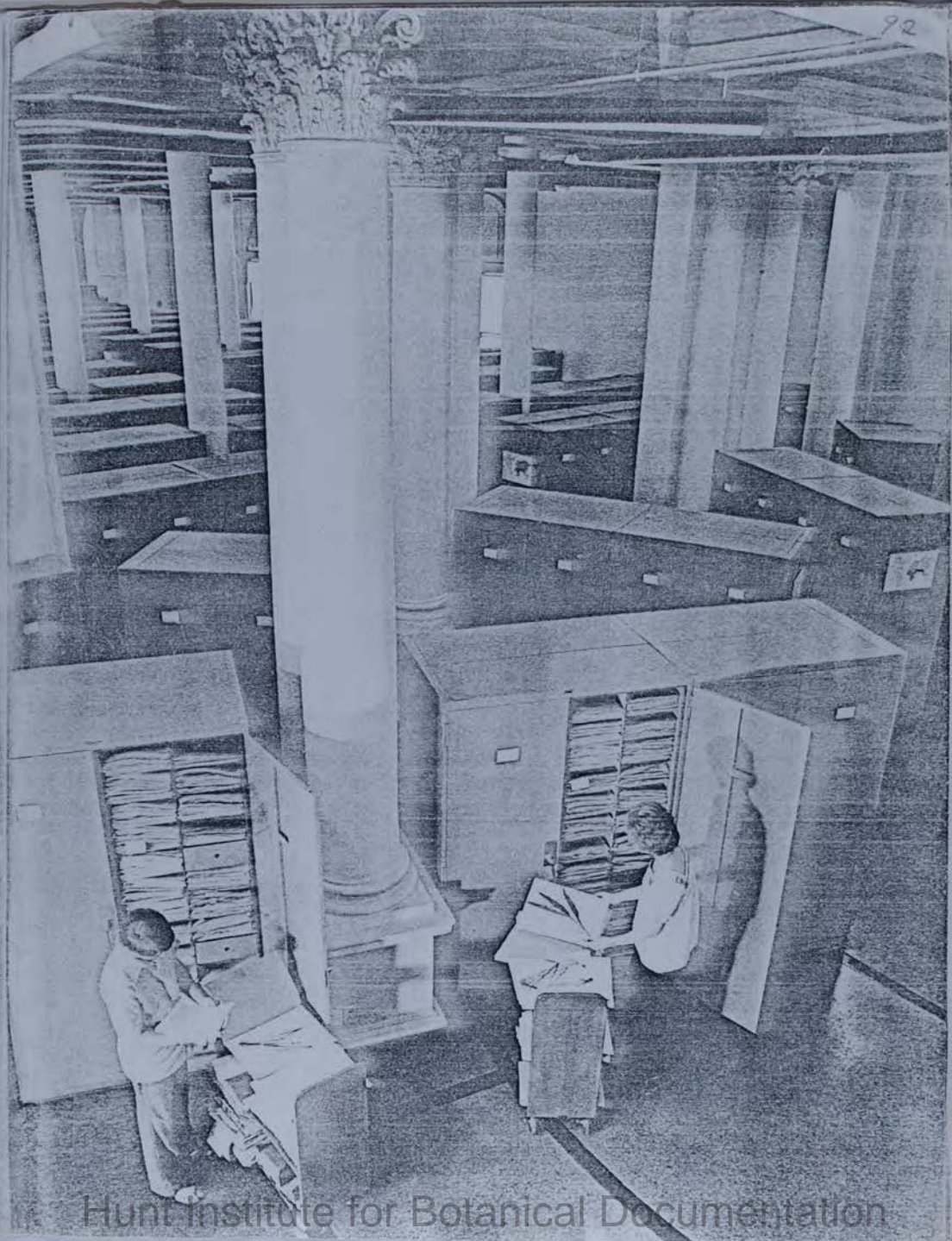
M. S., University of Hawaii, '23.

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# The New York Botanical Garden Report

FISCAL YEARS 1979/1980/1981

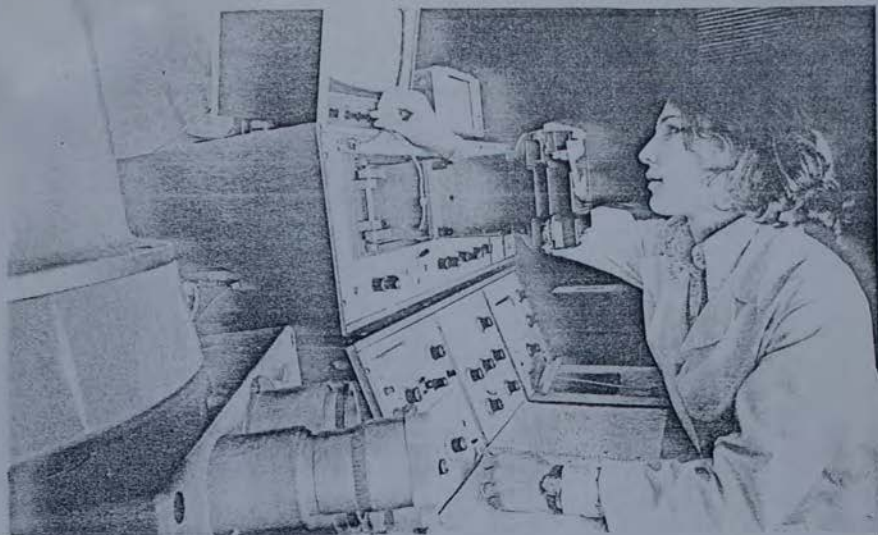




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Dr. Otto Degener is a distinguished botanist cited by the Hawaii State Legislature in 1979 as one "who cares about the natural beauty and special qualities of these islands, Hawaii owes a lifetime debt of gratitude to Dr. Degener for his life time perseverance in relating manankind to the natural environment upon which we ultimately depend on for survival." In 1952 the University of Massachusetts at Amherst called him a botanical pioneer. "Among my galaxy of great naturalists your place and fame are secure," Dr. J. H. Degener, his wife, is credited with greatly influencing his leadership in the botanical world. Degener has demonstrated the introduction of certain plants and animals to Hawaii's natural environment. "There is something unique 2000 years & more that has taken 20 million years to perfect," says Degener. We are happy to share his concerns on the Hawaiian natural environment.

# From tarweed silversw

## The Native Hawaiian

December 1982  
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Editor  
Carol K. Kaula

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**T**he Hawaiian Islands arose from the ocean in round numbers 100 million years ago from a "hot spot" belching magma or "lava" about where the Island of Hawaii is growing today. Some of the first to appear were Kure Island, Midway Island and Pearl and Hermes Reefs. They reached their present position about half way to Japan by sliding with a huge crust of rock on top of peanutbutter soft magma at the rate of about two inches per year. About thirty to fifty islands erupted later at intervals at the same spot. There is no reason to believe such islands did not emulate in size and elevation the five major islands man now populates in ever-increasing number. We must not be confused by the barrenness and smallness of the more distant islands today. It is the result of no more increment of lava to make up for millions of years of erosion by rain, wind, and less effectively by earthquakes and tsunamis. All were bombarded with eggs and cysts of animals as well as spores and seeds of plants ever since their origin by their flying in the wind, floating on the water, and sticking to the soiled feathers and legs of birds or undigested in their intestines until voided with a useful contribution of manure. Almost all died, but a very few landed on ground satisfactory for living and forming a "dynasty" of their own. With millions of years available, this influx was enough to cover the barren lava wastes with plants which, in turn, supported "dynasties" of animals to the present.

The earliest animals, perhaps land snails in an overgrown knot hole of a driftwood log, and sticky "seeds" of the California tarweed ancestor or the seeds of some primitive southwestern hibiscus made the round trip from an early "hot spot" island

with frequent stopovers on islands of our archipelago toward its northwestern end. Those that tarried perished out as the result of their island's continuous erosion. But some few emigrated in erratic stages all the way back again to the more modern islands arising from the "hot spot" many millions of years after the early ancestors had started the jaunt.

**T**he earliest successful immigrants to the Hawaiian Islands on for example Kure, Midway or Pearl and Hermes has the greatest number of millions of years to evolve into something different from their ancestors, influenced by genetic isolation and the stimulation of growing at different times on different islands perhaps in salt bogs, deserts, dry forests, rain-forests, cinder cones, in heat or cold, etc., etc. Most succumbed over the ages but about thirty to fifty kinds of Flowering Plants or Phanerogams, for instance, today are so different from their ancestors that they are recognized as distinct genera. In the case of the early tarweed mentioned above, it developed in the presently surviving genera *Ruellia*, *Dubautia*, *Wikleria* and the truly magnificent *Argyroxiphium*. *Argyroxiphium*, if you have not guessed it, is the famous silversword genus to which about half a dozen species exist on Maui and Hawaii. About an equal number of less silvery taxa, some not yet properly described for naming scientifically, are endemic to Maui. Somewhat subdued in appearance, they are known as "green swords" in the vernacular.

The other example that fascinates us so intellectually is more involved: The Lobelia Family is characterized almost always with bearing curved flowers. The one endemic genus *Brighamia* has

straight flowers; but the endemic genera *Clermontia*, *Cyanea*, *Delissea*, *Galeatella*, *Neovimmeria*, *Rollandia* and *Trematolobelia* all have curved ones.

**W**hether early emigrant birds have a straight or more likely somewhat curved beaks cons ago birds came and evolved into the endemic Family *Drepanididae* or Honeycreepers. This consisted of twenty-two endemic species with about fifty subordinate taxa until relatively recent times. For a bird with a straight beak to sip nectar from the inside bottom of a curved flower is far from efficient. Hence over millions of years, evolution perfected the curves of beak and flower to fit each other like a hand in a glove. Birds with the most efficient beak presumably gained more food to breed more successfully and to bequeath their beak type to their offspring. Moreover, the lobelia genera who catered best to such birds were most efficiently pollinated and hence tended to produce the most seeds to germinate into plants having the same good or even better flower shape.

The end of this story is truly amazing. Surrounded by birds with curved beaks, a typically star-shaped hibiscus flower evidently was not very popular and hence failed to be often pollinated to produce seed. Thanks to the working of evolution over millions of years the lucky offspring of the original hibiscus immigrant perfected a flower with petals rolled lengthwise together into a curve to fit the beak of the nectar feeders. Being so different, the five species known from Hawaii, Maui, Lanai and Kauai constitute the extremely rare genus *Hibiscadelphus*.

We are convinced after concentrating 90 years on the

# to ord

flora of the Hawaiian Islands and publishing nine books and numerous articles about it - the *Kane* writer was first Naturalist of Hawaii National Park in 1929 and we are now residing in Volcano - the Hawaiian Islands even for conspicuous organisms like the Flowering Plants are crowded with still unrecognized endemic species, varieties and forms. Other except for perhaps mollusks, ferns, mosses)

less highly evolved organisms are practically unknown to this day. How many fungi capable of furnishing new antibiotics, and how many *limu* secreting anticancer chemicals are we blindly destroying forever?

**P**una and Kahu Districts are no exception in harboring organisms known nowhere else. Due to the direct and indirect action of Man, the lowlands of Puna have been badly mauled so far as the endemic animals and plants are concerned. The baneful influence, I feel, of action by the proposed Kahaulea Geothermal Project, if properly confined to well below 1,000 feet elevation to where exotic weeds, sugarcane, papaya and cattle have already wiped out most of the delicate endemics; would not be such a disaster. But the disaster would progress geometrically with increase in elevation. Near Hawaii Volcanoes National Park - What's the matter with apparently somnolent National Park Service executives in Washington? - the area would lose the wealth of its fascinating endem-



A drawing of the tree named after Botanist Otto Degener, the *Degeneria vitensis*, the only known member of the primitive *Degeneria* Family. Drawing reprinted from "Degeneriaceae, A New Family of Flowering Plants from Fiji" by I.W. Bailey and A.C. Smith

The sin of annihilating Sacred Creations is hardly valid because of our present ignorance of what is Right and Wrong. The majority in the islands and elsewhere just never knew better. The present human race differs as much from the superior men and women following us on hence as does the ancient tarweed from its present offspring the glorious silversword! For

Doubting Thomases concerning the above, avoid being self-conscious for a moment. Note what normal heads look like untouched by clippers, scissors and razors-how ornamental they would be stuffed and hanging on the dining room wall? -remember your bare looks in a mirror; admire the slightly mangy appearance of furred sunbathers sporting along Hawaii's beaches; listen on the Radio and TV to adolescents howl and scream in the mating calls less interesting than those of coyotes on a moonlit prairie; read in the newspapers about wholesale atrocities committed by mature men imbued by the mob spirit on defenseless men, women and children; and the frequency of crime committed by individuals. Next saunter to a zoo and observe the good-natured chimpanzee, gorilla and orangutan, true blood brothers according to recent medical blood tests. Of these four groups, I consider myself and my kind of *Primate* truly the prime ape in viciousness. But why remain so? I am convinced the "silversword men" of the future will approve "tarweed man's" attempt to conserve the biotic distinctness and wealth of Hawaii Nei. Why not join us in this endeavor?

ics. How many lucrative and foreign visitors would continue to swarm there except for occasional volcanic outbursts? We would sell our Volcano village property to the highest bidder.

To limit Man's geothermal activity to the lowlands, a compromise in favor of its advocates, has become outdated because of the increased human habitations in the vicinity. Hence to gain power thus, we are convinced, should be abandoned in favor of the less destructive and "cleaner" method briefly called "OTEC" (Ocean Thermal Energy Conversion). Look into the relatively harmless method of utilizing the differences in temperature of the Pacific at considerable depths and near the surface, please. To us it is convincing.

**F**or present Man exterminating endemic animal and plant kinds that Almighty God or the Laws of Nature - there are many ways of reaching the summit of a mountain - has created over a period of many millions to many thousands of years, according to our Faith, is Sacrilegious and Blasphemy!

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEYHAWAII AND  
AMERICAN SAMOAINDEX TO TOPOGRAPHIC MAPPING IN  
HAWAII AND AMERICAN SAMOA

The Geological Survey is making a series of standard topographic maps to cover the United States, Puerto Rico, the Virgin Islands, and American Samoa. Under the general plan adopted, the unit of survey is a quadrangle bounded by parallels of latitude and meridians of longitude. Quadrangles covering  $7\frac{1}{2}$  minutes of latitude and longitude are published at the scale of 1:24,000 (1 inch=2,000 feet). Quadrangles covering 15 minutes of latitude and longitude are published at the scale of 1:62,500 (1 inch=approximately 1 mile), and quadrangles covering 30 minutes of latitude and longitude are published at the scale of 1:125,000 (1 inch=approximately 2 miles). In certain western States, a few quadrangles covering one degree of latitude and longitude have been published at the scale of 1:250,000 (1 inch=approximately 4 miles). A few special maps are published at other scales, as listed in this index under special headings. Each quadrangle is designated by the name of a city, town, or prominent natural feature within it, and on the margins of the map are printed the names of adjoining quadrangle maps that have been published. The maps are printed in three colors. The cultural features, such as roads, railroads, cities, and towns, as well as the lettering, are in black; the water features are in blue; and the features of relief, such as hills, mountains, and valleys, are shown by brown contour lines. The contour interval differs according to the scale of the map and the relief of the country. On maps that contain supplemental information additional colors are used, such as green for woodland areas and red for highway classification, urban areas, and United States land lines. A folder describing topographic maps and symbols is available free upon request.

Prior to August 1951 the green tint denoting woodland areas was overprinted on only a small portion of the first edition of a quadrangle map. Due to the increasing demand for woodland coverage, however, the greater part of the edition of each map published after that date has carried the green overprint. Therefore, in ordering maps, it is requested that it be specified whether copies with or without woodland coverage are desired. If the order cannot be complied with in this respect, the companion map will be substituted, unless it is stated that such would be unacceptable.

In many instances, an area is covered by 2 or more maps which carry the same name, but are published at different scales. Wherever this occurs, the map order should also include the map series designation, such as  $7\frac{1}{2}$ -minute series, 15-minute series, or 30-minute series.

The extent of map coverage in Hawaii and American Samoa is shown on the index map, on which the mapped areas are outlined in black. Quadrangles for which published maps are available have the quadrangle name and date of survey also printed in black. The individual island maps are irregular in size, and are published at the scale of 1:62,500, as are the 15-minute quadrangles covering the Island of Hawaii. The small rectangles represent quadrangles measuring  $7\frac{1}{2}$  minutes of latitude and longitude, and are published at the scale of 1:24,000. A list of special maps and sheets is given on the following pages.

## HOW TO ORDER MAPS

The price of the standard quadrangle map is 30 cents per copy, but a discount of 20 percent is allowed on orders for published maps of \$10 or more, and 40 percent on orders of \$60 or more, based on the retail price. All published maps distributed by the Geological Survey are subject to the discount rates. Prices for maps other than standard quadrangle maps are given on the following pages of this text. Prepayment is required and may be made by money order or check, payable to the Geological Survey, or in cash—the exact amount—at the sender's risk. Postage stamps or coupons are not accepted. To expedite delivery, the name and address of the purchaser should be typed or printed on the map order.

Maps covering areas in the States west of the Mississippi River (including all of Louisiana and Minnesota) should be ordered directly from the Denver Distribution Section, Geological Survey, Federal Center, Denver 25, Colorado. Maps for areas east of the Mississippi River (including Puerto Rico and the Virgin Islands) should be ordered from the Washington Distribution Section, Geological Survey, Washington 25, D.C. Maps of Hawaii may be ordered from either address. A single order combining both eastern and western maps may be placed with either office.

Sendings of approximately six maps or less are folded and mailed in envelopes unless unfolded copies are requested in the original order. Larger quantities of maps are rolled and forwarded in tubes.

The Geological Survey does not supply mounted maps.

Further information concerning maps may be obtained from the Map Information Office, Geological Survey, Washington 25, D.C.

Revised September 1964

12-4,000



Photos by Pat McGorum (above) and Robert Wenkum (opposite)

by Pat McGorum

# The Trouble with Tourists

*It's not what they do  
but what they bring*

"NEVER," said husband and wife in unison. "*Flora Hawaiianensis*," Otto elaborated, "will never be finished."

I leafed through Volume 6 as I talked with veteran botanists Isa and Otto Degener in their cottage on Oahu's North Shore. For decades the Degeners have labored to produce this monumental census of the plants of the Hawaiian Archipelago. Why would they not finish their work?

"Because," Isa explained in a gentle German accent, "there will never be an end to new species here. This is why the books are bound loose-leaf; we can insert new pages as new varieties appear."

"By evolution?" I ventured.

"By airplane!" Otto trumpeted. "By ship. By yacht. How did you arrive, and from where?"

"By 747 from Virginia," I answered. "Two days ago."

"Not too many visitors come from the East Coast. Perhaps you have brought us a new entry. A seed stuck to your shoe in a bit of mud, or trapped in your clothing,

or even blown into your hair by the wind back in Virginia. That's all it takes."

I glanced again at the book in my hand, and a passage caught my eye: "Of all exotic animals in the Hawaiian Islands, self-domesticated man is the worst offender, rushing to exterminate in a few hundred years a unique flora and fauna that took 25,000,000 to 15,000,000 years to evolve. . . . Of feral mammals, feral man, commonly classified with the hippies, is the least destructive to the native Hawaiian biota."

As I toured the islands and talked with some of their citizens—including the tamer specimens of feral man—in the ensuing month, I heard much the same story. The tourist generally behaves himself; he litters with a becoming restraint, picks a blossom

*Crowded beaches (above) symbolize the massive invasion of alien life-forms on Hawaii. Tourists constantly introduce new plants and animals. Sylvan scenes like the one opposite grow ever scarcer.*

basally, more extensively so on the fore legs; tibiae and tarsi paler, brown. Wings with a weak brownish tinge, the prearcular field light-yellow; veins dark brown, those at extreme wing base yellowed. Venation: *Sc* long, *Sc*<sub>1</sub> ending about opposite one-fourth to one-fifth the length of *Rs*, the latter straight; cell *M*<sub>2</sub> open by the atrophy of *m*; cell *M*<sub>3</sub> about as long as its petiole; *m-cu* shortly before fork of *M*.

Abdomen conspicuously bicoloured, black, the bases of the second to fourth segments conspicuously yellow, on the third and fourth sternites most extensive and more or less triangular in outline, elsewhere more transverse; outer segments uniformly black, excepting the ninth segment which is abruptly yellow. Male hypopygium with the caudal border of the tergite truncate, with a group of five or six black setae on either side of the midline. Basistyle with the dorsal part of the mesal face with a longitudinal row of about eight or nine strong black setae; more ventrally but also on the mesal face with abundant long erect yellow setae. Dististyles terminal, the smaller outer one bent at nearly a right angle into a long straight point; inner style at apex on outer margin with a retrorse spinous tubercle. Arms of phallosome elongate, divergent.

*Hab.* Fiji (Viti Levu).

*Holotype*, ♂, Tholo-i-Suva, December 1950 (Noël L. H. Krauss). Most similar to species such as *Toxorhina* (*Toxorhina*) *pulvinaria* Alexander, of New Guinea, differing in the colouration and, especially, in the structure of the male hypopygium, including the basistyle, dististyles and phallosome.

*Toxorhina* (*Toxorhina*) *noëliana*, sp. n.

Disk of praescutum uniformly shiny brown, the humeral region yellow; pleura and pleurotergite clear light yellow, conspicuously patterned dorsally with black spots; wings with a weak brownish tinge, more strongly so beyond the cord; basal abdominal tergites dark brown, the posterior borders narrowly yellow; basal sternites and the hypopygium yellow; male hypopygium with the inner dististyle obtuse at apex, on lower margin at near midlength with a strong curved hook; arms of phallosome short.

*Male*.—Length, excluding rostrum, about 5 mm.; wing 4 mm.; rostrum about 5-1 mm.

*Female*.—Length, excluding rostrum, about 8 mm.; wing 6 mm.; rostrum about 5-5 mm.

Rostrum of moderate length, subequal to the body and longer than the wing, black throughout. Antennae black, the flagellar fusion segment somewhat paler, brown. Head clear light grey, entirely without a corniculus; anterior vertex relatively narrow, scarcely twice the diameter of the scape.

Cervical region and pronotum dark brown, concealed beneath the very strongly projecting praescutum. Mesonotal praescutum with the humeral region and extreme cephalic portion yellow, the lateral borders more narrowly yellow, grey pruinose; disk of praescutum uniformly shiny

brown, scutal lobes and scutellum concolorous, the median region of the scutum very restrictedly obscure yellow; postnotum grey pruinose. Pleura and pleurotergite clear light yellow, conspicuously patterned with two dorsal blackened spots, the more anterior on the dorsal anepisternum, the second area on the dorsal pteropleurite and adjacent part of the pleurotergite. Halteres brownish black. Legs with all coxae and trochanters clear yellow; remainder of legs dark coloured by abundant black setae; tarsi paler. Wings with a weak brownish tinge, more strongly so beyond the cord, the basal fourth and narrow costal border more whitened; veins dark brown. Venation: *Sc* short, *Sc*<sub>1</sub> ending just beyond origin of *Rs*; *M*<sub>2+4</sub> about two-thirds vein *M*<sub>4</sub> alone; *m-cu* about one-third its length before the fork of *M*.

Basal abdominal tergites dark brown, the posterior borders narrowly obscure yellow, the outer segments more uniformly darkened; basal sternites and ninth segment yellow; basistyle of male hypopygium conspicuously blackened. Male hypopygium with the tergite transverse, the median region of the posterior border a trifle produced, on either side of the midline with about six strong black setae. Basistyle on mesal face of outer half with a longitudinal row of about six strong setae, the most basal one largest; also on mesal face with very abundant long pale setae. Outer dististyle with outer third strongly narrowed. Inner dististyle much larger, obtuse at apex, on lower margin at near midlength with a strong curved hook. Gonapophysis unusually broad, very obtuse to subtruncate at apex. Arms of phallosome short (possibly with the tips broken, as shown in the unique type slide).

*Hab.* Fiji (Viti Levu).

*Holotype*, ♂, Lami, February 1951 (Noël L. H. Krauss). *Allotype*, ♀, Navai, January 1951 (Krauss).

I am pleased to dedicate this fly to the collector, Mr. Noël L. H. Krauss, who has added vastly to our knowledge of the Tipulidae of Fiji. The fly is quite distinct from *Toxorhina* (*Toxorhina*) *perproducta*, sp. n., in the smaller size, with much shorter rostrum, the colouration, and the details of structure of the male hypopygium. The female assigned to this species as allotype is much larger than the type male and may prove not to be conspecific.

degger's *Sein und Zeit*. But where could the text be found? Fortunately there was a priest among the prisoners who was frequently sent to the Benedictine monastery in Trier to do chores for the monks. Perhaps the abbot would be willing to acquire the book for Father Perrin. One understands the astonishment of the abbot upon receiving this request, but the book was bought and delivered. Of course the text was in German, a language Sartre read frequently. His practice was to read a line of the chapter, translate it into French and comment. However, a line whose meaning was perfectly clear to the philosopher and needed no explanation, was not always obvious to Father Perrin who felt much too honored by Sartre's zeal to complain.

Already a "Docteur ès Lettres," Father Perrin feared the intellectual torpor that was threatening him in the prison camp. To react against it, he had forced himself to take notes daily. He admits that the presence of Sartre galvanized his resolve to be faithful to his diary, little suspecting that one day these notes would find their way into print.

A fascinating aspect of his book is his interpretation of Sartre's thought at that period of his life, scarcely two years after the publication of his novel, *La Nausée* (1938), in which the philosopher appears pessimistic, anti-humanistic, nihilistic, fleeing the crowd to take refuge in his ivory tower. Sartre admitted later that he himself was the antihero portrayed in the novel. Father Perrin's portrait of the Sartre of 1940 is different from what one would have expected; after all, *La Nausée* and *Le Mur* were hardly exhilarating literary pieces. But by this time, Sartre the prisoner projects a vastly different image. His optimism is pervasive, his good humor is constant, and he never complains, not even of the lice that Father Perrin could detect at times on the neck of his sweater. Someone in the camp explained that his kindness and composure were undoubtedly due to Buddhist influences.

His lectures on freedom, commitment, bad faith, responsibility for others, hope (yes, hope!) made the priests mildly critical of the abstract teachings of the seminary. If Father Perrin interprets their feelings correctly, they felt that the presence of Sartre in their midst was "contagious." One of them confided to the author: "Don't you find it strange that someone who calls himself an atheist should play the role of an awakener (éveilleur)?" And he did not hesitate to add that he felt Sartre was a kind of

prophet who prevented others from forever walking in a circle, and that while the prophets of Israel had not always gotten along with the priests, they were nevertheless responsible for whatever progress was achieved. Yes, Sartre's message was not new, but it was the kind of message which one had to retrieve continually.

This reflection resulted from a friendly exchange between Sartre and another priest who had assured him there were advantages in having faith. Sartre placed his pipe on the table and asked him what he meant when he spoke of "having faith." Was faith something that one owned, like the pipe in front of him? An external object which would have a magical bond with the one who had it? Was it not rather a fundamental attitude which the believer assumed, a choice that had to be renewed constantly? "You are a priest," he added, "you have an obligation each morning when you say Mass to try to renew your priesthood." Little wonder that he was a challenge to entrenched thought.

Some weeks before Christmas in 1940, the thoughts of the prisoners naturally turned to the Christ Child. Sartre was not impervious to the feelings around him. He wanted to contribute something. Why not put on Claudel's *Le soubresaut du satin*? He had been rereading Claudel, whom he called a genius. Father Perrin was aghast: It was a two-volume work, and highly complex. Sartre singled him out: He had just the role for him. Father Perrin was evasive, and Sartre eventually renounced this ambitious project, only to propose to the priests that he himself would write a play, a kind of Christian mystery play, not Christian, really, but the action would unfold in the context of Christmas. They were frankly puzzled and sought more information, but Sartre was somewhat vague, except to say that it would have to do with the idea of freedom. Father Boisselot, their leader in the camp, voiced encouragement. He knew what Sartre was capable of. The priests and others must be convinced of the impor-

ance of the project, and should be willing to accept the roles, learn the lines and act them out under the direction of Sartre.

Sartre, an atheist? But was not this mystery play a sign of his impending conversion, something like what happened to the pagan actor, Genesis, of old, touched by grace while interpreting the role of a martyr? Someone had to raise the question and it was l'abbé Henry Leroy who dared. He was so sure of an affirmative answer that on that occasion he addressed Sartre as "mon cher Jean-Paul." Sartre smiled and reminded Father Leroy that he was an atheist, and a proud one to boot. Father Perrin stepped in to smooth things over, saying that there was a visible church, and an invisible one for those in good faith, and that Sartre undoubtedly belonged to the latter. "If I understand you correctly," Sartre retorted, "then it is impossible to escape God. You are rather totalitarian, but your totalitarianism is hardly dangerous, since it allows one to live, and we live very happily together." End of the conversion episode, for a while. Sartre's sympathy and friendship were not to be seen as a denial of his philosophy. He was a brother living among brothers. He respected their faith; he would even join them at Christmas Mass, after the play, and sing Christmas carols with them.

Now the play had to be written and quickly if it was to be ready for Christmas. Anticipating his behavior later at the Café de Flore in Paris, where he did his best early writing to the accompaniment of clinking glasses and animated discussion, Sartre would appear almost daily at the priests' stalag, sit down at a table and write, while the prisoners chatted and performed their chores.

The play was called "Bariona." The Jesuit Feller was to play the role of Bariona, and Sartre was to impersonate one of the Magi, Balthazar. Bariona's tragic insight, applauded and accepted by the Elders, is that the best way to fight the Roman Occupation of Judea was not to

**"To escape . . . was seen more positively . . . .  
To a noncommissioned officer who wept over his lot  
Sartre had asked: "What are you complaining about?  
If you remain here it's because you want to."  
When the officer referred to the risks involved  
in any attempt to escape, Sartre replied coldly,  
"Don't you know that freedom has its price?" "**

America/February 14, 1981

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✓ MA. 114-116

"SARTRE AND THE PRIESTS AT STALAG 12 D"

As I was browsing through the mag shelves at the Wahiawa Public Library within 2 hours of typing the enclosed letter to you --- my eye was caught by the cover of AMERICA -- and the lead article. Thought it worth a photocopy --- for yr interest, bemusement, and edification -----

[Don Smith]

# PHYTON

## ANNALES REI BOTANICAE

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## DEGENERIACEAE, A NEW FAMILY OF FLOWERING PLANTS FROM FIJI

I. W. BAILEY AND A. C. SMITH

*With five plates*

IN 1934 the junior author collected specimens of a fruiting tree on the Fijian island of Vanua Levu, but efforts to place the plant in a family failed. Neither fruit nor foliage suggested any plant previously known from the Pacific. Although wood from the trunk was available, no definite suggestion of a family could be made by those who examined the specimen. Recently, a re-examination of the wood and a study of the internal structure of the twigs and leaves indicated that the plant is related to the Magnoliaceae, and it has subsequently been ascertained that the plant is conspecific with a tree collected in flowering condition in the interior of Viti Levu by Mr. Otto Degener in 1941.

This Fijian plant, which is now represented by ample foliage, flowers, fruits, and wood, is definitely a member of the ranalian complex. It exhibits close similarities to the Magnoliaceae, particularly in the internal structure of its vegetative organs, in its pollen, and in the vascularization of its stamens. However, we cannot place it in the Magnoliaceae, for reasons to be discussed on succeeding pages, without expanding the current concept of that family to an unwarranted degree and certainly far beyond the limits proposed by Dandy (in Kew Bull. 1927: 257-264, 1927) and Hutchinson (Fam. Fl. Pl. Dicot. 81, 1926). Another comparatively close relative of the new plant is the genus *Himantandra* F. v. Muell.,<sup>1</sup> originally believed to be a member of the Annonaceae, but since — and we believe correctly — established as representing the unigeneric family Himantandraceae (Diels in Bot. Jahrb. 55: 126, 1917).

These three families, Magnoliaceae (sensu stricto),<sup>2</sup> Himantandraceae, and the proposed Degeneriaceae, form a group with salient morphological similarities. They are differentiated from more remotely related families such as the Euponiaceae, Annonaceae, Winteraceae, Trochodendraceae, etc. by fundamentally significant differences which we shall consider in future detailed treatments of these groups. For the purposes of the present paper, the relationships of the new plant need not be considered beyond the Magnoliaceae, Himantandraceae, and Winteraceae. Following the

<sup>1</sup> The use of the name *Himantandra* F. v. Muell. rather than *Gallulimina* F. M. Bailey is discussed in detail in the following article in this Journal.

<sup>2</sup> Whenever mentioned in the following pages, the family Magnoliaceae is intended in the restricted sense, as interpreted by Dandy, Hutchinson, and many other recent students.

technical description of the new genus and species, we shall discuss the salient internal morphological features of the plant. The remarkable stamens and carpel of *Degeneria* deserve special consideration, since they are likely to prove of some significance in future discussions of the floral morphology of the angiosperms.

It is a privilege to associate the name of the new plant with that of Mr. Otto Degener, collector of the type specimen and author of *Flora Hawaiianensis* and numerous other works on Pacific botany. We are indebted to Dr. J. Hutchinson, of the Royal Botanic Gardens, Kew, for his kindness in sending us floral material of *Himantandra*, and to Dr. A. O. Dahl for verifying our interpretation of the pollen morphology of *Degeneria*. Figures 1-11 were drawn by Mr. Gordon W. Dillon and figures 12-14 by Dr. Charlotte G. Nast. We are further indebted to Dr. Nast for the preparation of serial sections of the vegetative and floral organs of our plant.

### Degeneriaceae fam. nov.

Familia characteribus generis unici.

### Degeneria gen. nov.

Arbor, stipulis nullis, foliis alternatis simplicibus pinnatinerviis. Flores solitarii supra-axillares hermaphroditi. Sepala et petala disparia, calyce rotato, sepalis quam petalis multo minoribus, petalis pluriseriatis carno-imbricatis, toro coriaceo subgloboso vel convexo, centro sub ovatio depresso. Stamina hypogyna plura carnea complanata, loculis 4 lineis parallelis extrorsis immissis rimis 2 longitudinalibus dehiscentibus. Stamina intra stamina et quam stamina pauciores, textura similia. Carpellum unicum inaequilaterale ellipsoideum, partibus ventralibus approximatis diffuse stigmatiferis, loculo unico, ovulis numerosis biseriatis, placentis 2 sutura ventrali parallelis. Fructus indehiscens, seminibus numerosis biseriatis, alteris sessilibus, alteris funiculo filiformi suspensis.

*Degeneria vitiensis* sp. nov.

Arbor ubique glabra, ramulis subrectis teretibus crassis (apicem versus 3-8 mm. diametro) fusco-nigrescentibus rugulosis saepe fistulosis; petiolis gracilibus (1.5-3 mm. diametro) rugulosis supra canaliculatis 2-6.5 cm. longis basi incrassatis; laminis chartaceis vel subcoriaceis siccitate utrinque fuscis ellipticis vel obovato-ellipticis, 9-27 cm. longis, 3.5-13.5 cm. latis, basi gradatim angustatis et in petiolum decurrentibus, apice rotundatis vel leviter emarginatis, margine integris et leviter revolutis, supra subnitidis, costa supra subplana vel interdum leviter canaliculata subius prominente et rugulosa, nervis secundariis utrinsecus 10-18 cum aliis debilibus interspersis divergentibus marginem versus anastomosantibus et rete venularum intricato utrinque conspicue prominulis; pedicellis sub anthesi 2-3 cm. longis gracilibus nigrescentibus rugulosis apicem versus gradatim incrassatis, bracteis 2 vel 3 coriaceis ovatis obtusis 1-1.5 mm. longas gerentibus vel cicatricibus ornatis; calyce coriaceo sub anthesi 8-9 mm. diametro profunde lobato, sepalis 3 ovato-deltoides 3.5-5 mm. longis et latis ubique obscure luteo-glandulosus, apice obtusis, margine anguste scariosis sub-integris (vel obscure erosulis) inconspicue ciliatis (pilis circiter 0.15 mm. longis); petalis 12 vel 13 ut videtur 3-4-seriatis concavis apicem versus plus

# 'ELEPAIO

Journal of the  
Hawaii Audubon Society

VOLUME 40, NUMBER 5



For the Protection of  
Hawaii's Native Wildlife

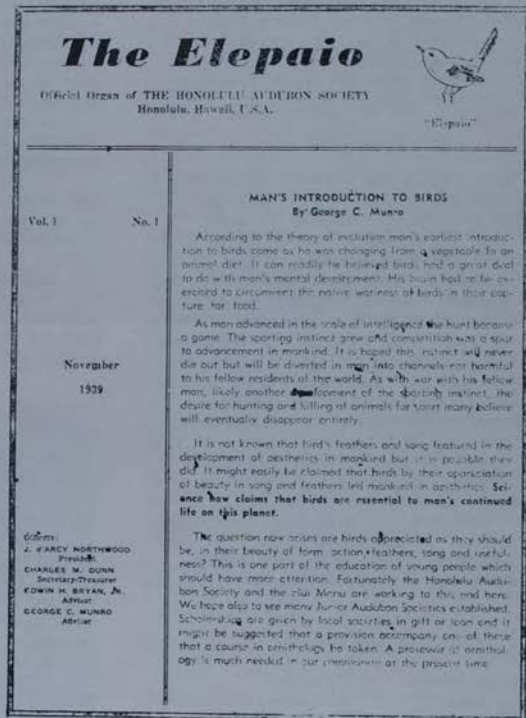
NOVEMBER 1979

## 40<sup>th</sup> ANNIVERSARY ISSUE

With the front page reproduced here, the first issue of the 'Elepaio was issued 40 years ago this month.

The present issue chronicles the progress, the tribulations, and some unique Hawaiian flavor of 40 years of the Hawaii Audubon Society.

Please enjoy the issue and join us in the events listed below.



### 40TH ANNIVERSARY SCHEDULE OF EVENTS

Friday, Nov. 2. Buffet and social at Sea Life Park, 6 p.m. Telephone reservations accepted at 261-3741 or 262-4046.

Saturday, Nov. 3

7:00-11:00 a.m. Pelagic Trip #1.  
9:00-12:00 a.m. Kaelepulu Canal Clean-up  
12:00-4:00 p.m. Pelagic Trip #2

12:30-4:00 p.m. Oahu Waterbird Trip  
7:30 p.m. "Galapagos" wildlife film

Sunday, Nov. 4.

dawn-?? Big Day Bird Count.  
7:00-11:00 a.m. Pelagic Trip #3.  
7:30 a.m.-4:00 p.m. Forest Bird Trip  
12:00-4:00 p.m. Pelagic Trip #4.

FOR DETAILS SEE INSIDE BACK PAGE

# Hunt Institute for Botanical Documentation

From the ANNALS AND MAGAZINE OF NATURAL HISTORY  
Ser. 12, vol. ix, p. 145, March, 1956.

NEW OR LITTLE-KNOWN TIPULIDAE (DIPTERA).  
CI. ORIENTAL-AUSTRALASIAN SPECIES.

By CHARLES P. ALEXANDER, Ph.D., F.R.E.S.,

University of Massachusetts, Amherst, Massachusetts, U.S.A.

At the present time I am describing a series of crane-flies from Fiji that were collected by Messrs. Otto Degener, Noël L. H. Krauss and Elwood C. Zimmerman. A more detailed account of the Fijian Tipulidae will be presented in a paper on the fauna now being prepared. The majority of the forms discussed at this time were taken in 1950-1951 by Mr. Krauss. The materials collected by Dr. Degener were secured between December 1940 and July 1941 while he acted as botanist on the second "Cheng Ho" expedition, sponsored by Mrs. Anne Archbold. The extremely interesting accounts of this expedition, with much additional information concerning Fiji, past and present, are given in Degener's papers concerning the voyage of the "Cheng Ho" and especially in his final major work on the subject.\* Except where indicated to the contrary, the types of the various species are preserved in my collection.

*Limonia (Limonia) perselosa perselosa*, sp. n.

General colouration of mesonotum dark brown; antennae strongly nodulose, the intermediate flagellar segments with unusually slender and abrupt apical necks; wings with a weak brownish tinge, cell *Sc* and the stigma darker; cell 1st *M*<sub>2</sub> relatively long, exceeding vein *M*<sub>1</sub>; male hypopygium with the ventromesal lobe of the basistyle long and stout, with two unusually long setae at near midlength; dististyle single, unequally bidentate at apex; aedeagus subtended by a flange.

*Male*.—Length about 4.5 mm.; wing 4.6 mm.; antennae about 1.3 mm.

Rostrum and palpi black. Antennae relatively long, the scape and pedicel a trifle paler, more pruinose; basal flagellar segments oval, with short broad apical necks, on the succeeding segments becoming more slender at near midlength of the organ slender and very abrupt; outer segments again becoming more elongate, with slender necks; terminal segment about one-fifth longer than the penultimate, pointed at tip. Head grey, with a darkened spot on vertex; anterior vertex reduced to a narrow strip.

Pronotum dark brown above, more yellowed on sides. Mesonotum obscure yellow, the prescutum with a central brown stripe, the lateral pair feebly indicated; scutal lobes darkened; posterior sclerites of notum brown, sparsely pruinose. Pleura and pleurotergite yellow, the propleura and adjoining part of the ventral anepisternum infuscated.

\*Degener, Otto. Naturalist's South Pacific Expedition: Fiji. pp. 1-301, 166 illustrations; 1949. Printed by Paradise of the Pacific, Ltd.; obtainable from the author, Honolulu, T. H.

To Otto,

with regards  
and  
Sincere thanks.

Alex

We have wondered  
how you good folks  
are getting on—  
are you not so good,  
even since you folks  
were here I have been  
bothered by asking this in  
my open space and  
right in the middle of  
your time I am sorry  
about the get on with  
the former and the  
latter but I believe  
in your good completion.  
It includes the species,  
with 53 plates (524 figs) and  
203 maps showing distribution.  
All best  
C & M

CHRISTMAS GREETINGS  
AND BEST WISHES  
FOR THE  
NEW YEAR  
To our dear friends,  
the Degeners,  
with every good wish  
for 1956—  
Affectionately,  
Charles and Opal  
Alexander

A Map of Marine Vegetation in Japan (2)

Moritosi TANIGUTI

日本 の 海 藻 植 生 図 (2)

谷 口 森 俊

三 重 大 学 教 育 学 部  
研 究 紀 要 第 29 卷 第 1 号 別 刷  
1 9 7 8 年 3 月 発 行

THE EUCALYPTUS TREE FARM PROBLEM

Recently, Drs. Otto and Isa Degener have called attention to factors associated with Eucalyptus species and related genera which seriously challenge the desirability of permitting massive plantings of these trees in Hawaii. It appears that the concerns expressed by the Drs. Degener have not been given serious reception warranted by their professional qualifications among many of those to whom these concerns have been presented. Although those issues were beyond the writer's experience and therefore not addressed during the 1981 Synfuels Project Tree Farm Workshop, failure to rectify this omission would be unconscionable.

The Degener's position is as follows:

1. Eucalypts are fire resistant as evidenced by the spongy, corky, thick, layered structure of their bark and/or readily ablated loose outer bark, often white.
2. Eucalypts readily regenerate from deep cambial cells or sub-soil root structures.
3. Eucalypts are rich in flammable, toxic oils.
4. Serious, frequent, extensive fires are characteristic of Eucalyptus forests and brush land in Australis, New Zealand and Tasmania.

# Tree nursery dedicated for energy plant use

Honolulu Advertiser  
By Hugh Clark

Advertiser Big Island Bureau

KEAUA, Hawaii — Hawaii County officials joined Bio Power Corp. yesterday in dedicating the start of a eucalyptus tree nursery on former Puna sugar cane land for an energy industry that someday may use 90,000 acres.

Warren Ramsey, president of the Honolulu-based Bio Power, explained the tree-planting program that will create wood chips to fuel a power plant. He predicted that the project eventually will provide enough fuel to generate 30 percent of the state's electrical power.

Ramsey and Mayor Dante Carpen-ter planted a year-old eucalyptus seedling as the "first tree" in what eventually will involve the planting of 150,000 trees a month.

Ramsey said his firm expects to use 10,000 acres of former cane land in Puna owned by Amfac and Shipman Estate for the eucalyptus that will be harvested in cycles for wood chips to power the Keaau electric plant. Bio Power then sells the energy to Hawaii Electric Light Co.

The seven-acre nursery started yesterday will lead to an eventual 18,000 acres of plantings in the Puna district. In response to questions after the ceremony, Ramsey said he is negotiating on Kauai for extensive tree plantings there.

Ramsey's firm started business on the Big Island last year, chipping several hundred acres of eucalyptus trees in the Ainako district of Hilo and a larger volume of native ohia trees in Puna to provide chips to the Keaau plant that generates 12 percent of the island's electricity.

C. Brewer's BioEnergy Development Corp. has planted 714 acres of trees in North Hilo and Ka'u in an experiment over the last six years.

BioEnergy vice president Thomas Crabb yesterday said a major test of the Brewer trees is to start in September. Much of the Brewer experiment has been funded by the federal Department of Energy.



Advertiser photo by Hugh Clark

James Wriston, who will oversee tree-planting, with eucalyptus seedlings.

Bio Power has no state or federal funding, although the firm last weekend got approval from the state Board of Land and Natural Resources to chip 1,500 acres of trees on lands off the Stainback Highway.

Ramsey also revealed yesterday his firm is working with the electric utility to provide power from "a gasifier that heats the wood chips to nearly 2,000 degrees (Fahrenheit) and thermally breaks them down into gases that can be used more economically."

Bio Power, which has generated some controversy over its ohia harvesting, has invested more than \$5 million on the island in the last year and employs 80 people.

Ramsey said his company never anticipated the furor the ohia chipping would cause but he added that Bio Power is committed to saving any unique or irreplaceable forest in Puna.

## Fl. Hawk 6 + PHAT Campbell Estate won't put a halt to ohia operation on Big Island

By Jay Hartwell

Advertiser Staff Writer 12/2/84

Campbell Estate said last week that a review of its ohia logging operation on the Big Island revealed no reason for stopping the 3,300-acre project.

O.K. Stender, the estate's chief executive officer, said the logging and the affected ohia forest were studied after a \$300,000 wood chipper was destroyed by arson and some people — including a botanist and geologist — claimed the Kalapana-area trees should be saved.

After talking with authorities and a University of Hawaii botanist, Stender said the estate found no evidence that the Kalapana forest, which grows on agriculturally zoned land, is so unique as to require complete preservation.

He also said the study revealed there are similar or more important ecosystems in conservation zoned lands outside the site area, including 220,000 acres in Hawaii Volcanoes National Park and 400,000 acres protected in state and county forest preserves on the Big Island.

Stender said the estate is preserving 20 ohia trees on each harvested acre and is not cutting down trees and plants in kipukas (depressions) and on knolls. Grass is being planted to prevent erosion.

The estate has authorized Bio Power to cut and chip the ohia trees. The chips are being used by the Puna Biomass Power Co. to fuel an electric plant. Both operations provide 53 jobs to the economically depressed area, said Stender.

About 100 more people should be hired for future manufacturing-type operations, he said, and an additional 150 are expected to be hired for agricultural activities planned for the harvested area.

Stender also said Bio Power two weeks ago applied for and is still waiting for a County of Hawaii grubbing permit that initially was not required for the harvesting.

Following the Degeners' points, it should be noted that the monoterpenes of Eucalyptus, are in fact toxic and volatile. Their toxicity accounts for the limited predation and infection among Eucalyptus species. Eucalyptus oil may also contribute to the low rate of litter decomposition because of the antibacterial-antifungal, generally toxic properties. The accumulation of Eucalyptus litter and detritus on the forest floor with their volatiles, sets the stage for fire. And the low boiling character of the Eucalyptus terpenes should facilitate combustion and propagation of fire.

Mueller-Dombois, writing in the Conference Proceedings, Fire Regimes and Ecosystem Properties (East-West Center, December 11-15, 1979, issued July 1981 as U.S.D.A. Forest Service General Tech. Rpt. WO-26), points out that heath forests, tropical pine and oak, teakwood and eucalypt forests all involve fire as part of their periodic mechanisms of rejuvenation.

In fact, these plants are so commonly associated with large scale fire that they are termed "pyrrophytes".

Mueller-Dombois also notes: "North Australia may form a special case, where....fire-originated savannas....predate the use of fire by man. This is....related to....open canopy structure of....sclerophyll forests.... Fire adapted woody plant(s) are particularly common...." The reference here is to Eucalyptus species.

Of the family which includes Eucalyptus he also notes "....certain

# Hemmeter plans *Honolulu Advertiser* 5/2/85 to make fantasy reality on Kauai

By Jan TenBruggencate  
*Advertiser Kauai Bureau*

**LIHUE** — A Christopher Hemmeter development is like a Robert Ludlum novel: It seems too fantastic to be real until the man himself gets you involved in the excitement.

The bare facts of Hemmeter's proposed \$160 million rebuilding of the Kauai Surf Hotel into the Westin Kauai are stunning enough. Horse-drawn carriages, so many exotic birds it'll need two full-time ornithologists, a 1,400-foot-long and 18-foot-wide walkway of mosaic tile and crushed marble along the beach.

A 1,400-seat exhibition tennis court with satellite transmitter facilities to televise major tournaments, a swimming pool 200 feet in diameter with a huge glass pavilion filled with hot pools, the water running down into a central grotto that has underwater connections to the outside pool.

"Some of us are in the industry because we love the challenge of doing something great," Hemmeter told Kauai Chamber of Commerce members Tuesday night. Having Hemmeter as a speaker drew more than 300, the biggest crowd ever for a Kauai Chamber quarterly dinner.

"Hawaii in the next two years is going to go through a major change in the visitor industry," a change that demands bigger-than-life resorts that become destinations of themselves, not unlike a Disneyland, he said.

The state must respond to that demand for special developments, he said.

They are enormously expensive, huge resorts that require a big gamble by financiers, but provide large potential profits. Hawaii's future as a world-class tourism spot depends on such upper resorts that can compete with any resort development in the world, he said.

"We are no longer a West Coast marketplace. We are a world-class resort

to be ready with competitive resorts that will keep us in the mainstream. If we do not, we'll drift. We'll never die, because we've got too much here, but we'll drift."

The developer said he tried to figure out what it takes to satisfy people who are paying admittedly tremendously high prices to stay here. It takes something more than just a room and a meal, he said.

They want more than a nice time in a pretty place. That's a concept of the past. They want the surreal, he said.

"We've tried to expand their fantasies. They want waterfalls, so we brought waterfalls into the resorts. They want swans, so we got swans. After all, they're spending hundreds of dollars a day to get away from reality."

Hemmeter's Hyatt Regency in Waikiki and his Hyatt Regency Maui provide the devel-

oper's track record for unique, high-quality resorts. His Waikoloa project, now under way, just went from a third to a half billion dollars in development cost, he said, and will be an expansion of his fantasy theme.

He bought the Maui and Kauai Surfs from InterIsland Resorts and is completely rebuilding both. The Kauai Surf property may be Hemmeter's best. It may also be his last super resort, he said Tuesday night.

"In all the surveys I've seen, Kauai has always been the island of choice . . . because of its beauty. This island has the greatest pent-up demand in the world."

"The Hyatt Regency Maui is on 18 acres. Folks, we've got 20 acres here."

"We've kind of saved the best for last. This may be the best resort development in the world."

And for all that, the resort itself is just part of the experience for the visitor. The people have to come with it, he said.

"We're going to bring the box. You're going to have to bring the heart," he said. The Westin Kauai will have several methods for getting local residents onto the property and involved in its activities, from liberal access to the property and beach to donation of facilities for local activities like canoeing to, of course, the hir-

ing of large number of employees. When it's done, with it 300 or so employees, the Westin Kauai will be Kauai's biggest single employer."



Advertiser photo by Jan TenBruggencate

Hemmeter drives Carter around the grounds of the Kauai Surf. Carter said he was impressed with the pre-rebuilding at the hotel and when Hemmeter invited him to see the result of his work in a couple of years, Carter said: "We'll see if it's better." Carter next had lunch in Princeville with Mayor Tony Kunimura. "That guy is so down-to-earth and warm, he must be the nicest guy in the world," Kunimura said. The former president later hiked a part of the Na Pali Coast.

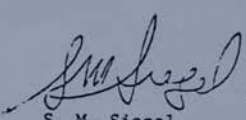
162

woody plant families such as the Myrtaceae, contain real pyrophytes". Such families have species with "lignotubers, trunk buds, serotinous capsules and heat requiring seeds.

Consultation with colleagues, Mueller-Dombois and Lamoureux, has confirmed fully the serious implications for fire hazard and natural toxicant release of massive Eucalyptus plantings, especially in northern Hawaii county where water resources are limited or scarce.

Additional support for the Degeners' comments about oil of Eucalyptus' flammability has been obtained from eyewitnesses to the part played by conifer resins in the explosive conflagration of southern California.

It is recommended, based on our present information, that tree farm energy plantations be based on species without the hazards of Eucalyptus.

 24 March, 1952  
S. M. Siegel

*See footnote  
under Degener  
H. Hart, Book 7.*

# RITTER'S GEOGRAPHISCH-STATISTISCHES LEXIKON

ÜBER DEN

ERDTHEIL, LÄNDER, MEERE, BUCHTEN, BÄYEN, SEEN, FLÜSSE, INSELN, GEBIRGE, STAATEN,  
STÄDTE, FLECKEN, DÖRFER, WEILER, BÄDER, BERGWERKE, KANÄLE &c.

MIT ANGABE

SÄMTLICHER POST-, EISENBAHNEN- UND TELEGRAPHEN-STATIONEN  
DER WICHTIGEREN LÄNDER,

FÜR

POST-BUREAUX, COMPTOIRS, KAUFLEUTE, FABRIKANTEN, ZEITUNGSLESER, REISENDE,  
REAL-, INDUSTRIE- UND HANDELSCHULEN.

SECHSTE.

GANZLECH UMGEARBEITETE, STARK VERMEHRTE UND VERBESSERTTE AUFLAGE.

UNTER REDACTION

VON

DR. OTTO FENNE-AM RHYN.

ERSTER BAND.

A. K.

LEIPZIG

VERLAG VON OTTO WIGAND.

1874.

## VIDEANT CONSULES

La Redacción de la Revista Sudamericana de Botánica recibió, de un antiguo colaborador Otto Dielsch, de la Universidad de Hawaii, la siguiente comunicación que merece ser leída y observada, también en nuestro Continente. Se trata de un caso típico, desgraciadamente no muy raro, en ciertos países anéxos, de que el Gobierno, por intermedio de la Universidad u otra autoridad, publique, custodiando la impresión, un trabajo "botánico", sin preocuparse de los errores que contenga y de los efectos y consecuencias que tal obra produzca en los círculos científicos del país y del extranjero.

"HAWAII'S CROP PARADE", by DAVID LIVINGSTON CRAWFORD, L. D. 305 pp. \$ 2.50. The Advertiser Publishing Co. 1937.

The writer fully realizes that it is hazardous for people living in glass houses to throw stones. Perhaps a book review should be written by some one who has never published anything and hence has never made an error, at least officially in print. Nevertheless, here, the hazard is accepted because of the unusual circumstances surrounding the case.

When a book under authorship of a university president appears, it is bound to attract attention. Hundreds, perhaps thousands, of copies find their places upon the shrine-like shelves of public libraries and schools among standard works of reference. The statements made in such books are accepted as authoritative, in fact, as Gospel Truth by the great majority of readers. They have usually been checked and rechecked by the author to reduce errors as far as humanly possible, in fairness to the implicit trust placed in such books by the reading public.

President DAVID LIVINGSTON CRAWFORD'S "Hawaii's Crop Parade", an attractively bound book of 305 unillustrated pages appears at first glance to belong to such a library shrine. It deals chiefly with the introduced flora of the Islands, not with the native plants that bloom relatively unknown on our mountainsides. It concentrates on "A review of useful products derived from the soil in the Hawaiian Islands, past and present". After devoting 31 pages to "Agricultural Prospecting" and a very readable chapter to the "Historical

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*not to embarrass author any further yet to put  
my plant identifications on permanent record  
I cause for publication one of the journals unknown  
to Haw. readers. O.D.*

# THE GARDEN

Vol 104 Part 2  
February 1979 65p

Journal of The Royal Horticultural Society

*Our latest publication, set twice,  
split more precisely.*  
C. 22

