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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.

Compliments of Otto Degener

FOUR NEW STATIONS OF LYCOPODIUM
PROTHALLIA

(WITH PLATES XI-XIII AND TWO FIGURES)

OTTO DEGENER

Reprinted for private circulation from
THE BOTANICAL GAZETTE, Vol. LXXVII, No. 1, March 1924

A new species of *Vitex* from South America

HAROLD N. MOLDENKE

Vitex Brittoniana Moldenke, sp. nov. Arbor excelsa; an-
notinis et hornotinis minute puberulentibus vel glabris; foliis
5-foliolatis (interdum 3-foliolatis); petiolis dense vel minute
puberulentibus vel strigillosis, supra planatis, ad apicem valde
amplatis et claviformibus; petiolulis tantum 3-15 mm. longis,
supra plerumque valde sulcatis, a pulvinis satis magnis circu-
laribus vel ellipticis emergentibus; laminis utrinque nitidis
ellipticis, inter se inaequalibus, ad apicem et basin acutis vel
breviter acuminatis, integerrimis, supra glabris, subtus praeter
costam et venas secundarias minutissime puberulentes glabris;
inflorescentiis paniculatis.

Tree to 20 m. tall; branches and branchlets stout, more or
less tetragonal, medullose, brownish, very minutely puberulent
or glabrous, marked with many linear-elongate lenticels; inter-
nodes 1-5 cm. long; leaves decussate-opposite, 5-foliolate or
occasionally 3-foliolate; petioles slender or stout, 3-11 cm. long,
densely or minutely puberulent or strigillose, decidedly flat-
tened on the upper surface, with minutely projecting margins,
conspicuously amplexate; leaflets ovate or elliptic, broadly
shaped; petiolules slender, 3-15 mm. long, the terminal one
usually by several mm. the longest, minutely puberulent or
strigillose, usually deeply sulcate above, issuing from compara-
tively large circular or elliptic cushions whose margins project
around the base of the petiolules; leaflets firmly membranous,
dark green and nitidous on both surfaces, elliptic (or occasion-
ally obovate), unequal in size, the terminal one 8.5-18 cm. long
and 3.5-8 cm. wide, acute or short-acuminate at apex (occasion-
ally rounded and subretuse), entire, acute or short-acuminate
at base, perfectly glabrous above, glabrous beneath except for
the very minutely or obsoletely puberulent midrib and sec-
ondaries; midrib slightly impressed above, prominent beneath;
secondaries slender, 9-14 on each side, rather close together,
ascending, often only slightly arcuate, slightly impressed above,
prominent and conspicuously anastomosing near the margins
beneath; veinlet reticulation prominulent on both surfaces; the
two lateral leaflets slightly or noticeably smaller; the two basal
leaflets usually very conspicuously smaller, sometimes quite

DE REVISTA SUDAMERICANA DE BOTANICA. VOL. VI N.º 1/2. MONTEVIDEO 1911

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.

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 the "Agricultural Prospecting" and a very readable chapter to the "Historical

Hessische Floristische Briefe

Verlag und Schriftleitung: Institut für Naturschutz der Hessischen Landesstelle für Naturschutz und Landschaftspflege Darmstadt

Schriftleitung-Ausschuß: Dr. H. Ackermann, Dr. U. Hillesheim-Kimmel, Dr. W. Ludwig, B. Malende, A. Nieschalk, A. Seibig

Jahrgang 17 Brief 194 Seiten 7-10 Darmstadt 1968

Zum Wiederfund von *Biatorrella campestris* (FR.) ALMQ. in Hessen

O. KLEMENT, Kreuzthal-Eisenbach

Unter der Vielzahl winziger Krustenflechten, die zum festen Florenbestand Mitteleuropas zählen, ist *Biatorrella campestris* eine der unscheinbarsten. Nicht nur, weil sich ihr dunkles, fast gelatinöses Lager kaum vom Substrat abhebt; auch ihre kleinen, dunkel- bis rotbraunen „Früchte“, deren Größe zwischen 0,1 und 0,3 mm schwankt, fallen gewöhnlich erst durch Lupenbetrachtung ins Auge. Die Art zählt zur Familie der *Acarosporaceae*, die sich von den übrigen heimischen scheibenfrüchtigen Krustenflechten vornehmlich durch die Produktion vielsporiger Schläuche auszeichnet. Angesichts ihrer Unscheinbarkeit ist es nicht weiter verwunderlich, wenn die Literaturquellen über die Verbreitung der Art sehr dürftig fließen und sie im Rufe großer Seltenheit steht. Wohl führt sie GRÜMMANN in seinem *Catalogus Lichenum Germaniae* (1963, p. 165) aus mehreren deutschen Landschaften an, doch liegen die früheren und jetzigen Fundorte so zerstreut, daß sich in einer Punktkarte kein geschlossenes Areal abzeichnet. Ein jeder Neufund verdient deswegen besondere Erwähnung. Im hessischen Raum war die Art seit vielen Jahren verschollen, und erst kürzlich konnte sie der Bryologe J. FUTSCHIG in reicher Entwicklung über abgestorbenen Moosen in einem *Fulgensietum alpinum* (KLEMENT 1955, p. 103), also in der montanen Ausbildungsform des „Bunten Erdflechtenvereins“, auf einer süd-exponierten Klippe am Rande des großen Gipsbruches bei Konnefeld (Kreis Melsungen) feststellen. Wohl fand die Art in der älteren Literatur für das Hessische Bergland einmal Erwähnung, doch wurde sie in diesem Jahrhundert niemals wieder gefunden. Auch BEHR (1954-1956) konnte die Flechte trotz seiner gründlichen Durchforschung des Odenwaldes und des Spessarts nicht antreffen.

Ob die Art kennzeichnendes Mitglied der erwähnten epigäischen Flechtengesellschaft ist oder – wie hier – nur die lückigen Flächen zwischen *Fulgensia bracteata* nutzt, kann vorderhand nicht mit Sicherheit gesagt werden, doch dürften sich ihre ökologischen Ansprüche ziemlich mit den Kennarten des Bunten Flechtenvereins decken. Soweit bekannt, besiedelt *Biatorrella campestris*

Taxonomic notes on the genus *Anthemis* L.

ROSETTE BATARDA FERNANDES

From

Flora Europaea. Notulae Systematicae ad Floram Europaeam spectantes. No. 16

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Botanical Journal of the Linnean Society

Vol. 70, No. 1, pp. 6-17

January 1975

to Dr. Degener,
With the compliments
of the author

REDISCOVERY OF A RARE LOBELIOID, *BRIGHAMIA*
INSIGNIS FORMA *CITRINA*, IN KAUAI,
HAWAIIAN ISLANDS

BENJAMIN C. STONE

From -
Bull. Torrey Bot. Club.
84 (3): 175-177, 1957.

Brighamia is a monotypic genus found only in the Hawaiian Islands, growing on steep cliffs in Kauai and Molokai, and at least as late as Rock's monograph (1919), on the small islands of Ni'ihau and Lanai. It is one of the seven indigenous genera of Lobeliaceae, of which six (*Brighamia*, *Cyanea*, *Clermontia*, *Delissea*, *Rollandia*, and *Trematolobelia*) are endemic, and one *Lobelia*, is found elsewhere. All of the native species are woody, and most of them are truly arborescent; the majority are single-trunked or rather sparsely branched, though some are quite abundantly branched.

The genus *Brighamia* was described by Asa Gray, with one species, *B. insignis* A. Gray (in Mann, 1868). It differs strikingly from the other genera in its thick, fleshy single trunk, which is usually 1 or 2 m. tall, but according to Rock (1919), may attain a height of 5 m. The leaves are clustered at the top of the trunk, giving an appearance according to Hillebrand (1888) of a "cabbage stuck on a fence pole." The leaves are simple, rounded-ovate, subsessile, slightly crenate, 20-30 cm. long by 12-15 cm. wide or smaller. The flowers are long straight tubes with 5 (sometimes 4 or 6) lobes, white or somewhat cream-colored in the typical form; they are borne at the top of the trunk on pedicels of some 10 mm. length, 5 to 15 in erect axillary racemes. The sap of the trunk is watery, unlike the glutinous milky sap of the other genera. The plants are shallowly rooted and seem rather precariously attached for an existence on windy, steep cliffs, their only habitat.

The forma *citrina* was described by Charles N. Forbes and J. M. Lydgate (1917), differing in the lemon yellow corollas, the shorter calyx teeth, and the more acute corolla lobes. The type locality given was simply "Haupu range near Nawiliwili Bay, Kauai; flowering: October 31, 1916; Forbes number 706-K."

Haupu is a low but precipitous isolated mountain range in southeastern Kauai, with a main ridge running east-west for about seven miles, and several shorter ridges projecting south and north. The summit is 2280 feet high, and about 2 miles from the sea coast. The two longest ridges project in a south-westerly direction, bounding a U-shaped valley whose floor at 50 feet elevation is cultivated sugarcane fields. The summits and southern faces of the Haupu range are well-forested; the northern face is vertical, covered with low vegetation; and the eastern face is composed of grassy steep slopes beset with outcrops of rock. Haupu was ascended on December 31, 1956, by Prof. Harold St. John, of the University of Hawaii, Irwin Lane, H. Woodford, Nancy Higgins, and the writer, guided by local residents of Koloa. While ascending the east face, three plants of *Brighamia* were seen, growing on narrow ledges of rock at about 850 feet elevation. Two of the plants were large healthy specimens, about three feet tall; the third was very small and probably a recent seedling. A precise locality can now be given for the forma *citrina* Forbes & Lydgate:

... on outcrops of rock at about 850 feet elevation on the south-east facing slope of Haupu's eastern side; in rock crevices and on narrow ledges, with a sparse growth of *Sida*, weedy grasses, and guava; in the *a'opua'a* (Hawaiian land section) of Mahaulepu, KAUAI, Hawaiian Islands.

The plants found were not in flower, so there may be some doubt as to the identity; but because of their rarity, it is unlikely that the typical form includes these individuals. The nearest locality known is along the Napali coast, on the northwest extremity of Kauai, nearly 30 miles distant, and separated by extensive ranges up to 5170 feet in height; and as far as is known, *Brighamia* has not been collected or seen on Haupu since the original type collection. Although the ravages of wild goats have done much to destroy the natural vegetation of Haupu, as well as other areas, *Brighamia* has survived, at least to the extent of three individuals, likely the descendants of the individuals from which Forbes collected the type of forma *citrina*. It is hoped that in the summer of 1957 a collection of the flowers can be made from these plants.

Other known localities for *Brighamia* (typical) include: Kalatoo Trail, Napali Coast, Kauai (B. C. Stone 1475); Ni'ihau (probably) (Remy 305); steep slopes of Halawa valley, Molokai (Rock 8817); Kalanapapa-Kalawao-Waikolu, Molokai (Rock 8817-A); Halawa, Molokai (Abbe Urbain Faurie 574); head of Maunalei valley, Lanai (Rock, observation). The Hawaiian names are "alulu" (on Kauai) and "pua'ala" (on Molokai).

Another occurrence of a rather rare plant on Haupu might be noted here; *Marattia Douglasii* Baker, the only endemic Hawaiian *Marattia*, was found in the upper slopes near the summit of Haupu, and on the summit; a number of individuals were seen with fronds up to eight feet long, the longest seen on this species, exceeding the length given in Hillebrand's description (1888) by 3 feet. Although Hillebrand mentioned this plant as rather common, it is only locally common in certain small areas. Another known locality is on the slopes of east Maui.

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The induced timberline of Mount Monadnock, N.H.

Henry I. Baldwin¹

Retired Research Forester, New Hampshire Forestry Commission

BALDWIN, HENRY I. (Hillsboro, N.H.) The induced timberline of Mount Monadnock, N.H. Bull. Torrey Bot. Club 104: 324-333, 1977.—Mount Monadnock, an isolated peak in southern New Hampshire, was once completely wooded, the upper part being covered with mature red spruce. Fires in 1800 and 1820 denuded the upper part and produced an artificial timberline. Invasion of pioneer vegetation which included some arctic-alpine species proceeded rapidly at first, and spruce regained much of the slopes. Now, the progress of spruce in reclothing the summit has slowed to a halt and spruce may even be retreating from its former outpost.

Mount Monadnock (965 m., Lat 42°52' Long 72°6'), an isolated rock peak in southern New Hampshire is the type example of the geologic term "monadnock." It is shown on the U.S.G.S. 15' Monadnock Quadrangle. The mountain is owned principally by the Society for the Protection of New Hampshire Forests, partly by the State of New Hampshire and the Town of Jaffrey. There are some very small parcels of private land. Aside from the latter the mountain is open to the public by numerous trails on all sides. (Baldwin 1974a) It is rich in history and was visited by many writers, artists and scientists in the 19th century. Thoreau made four trips to the mountain, on two occasions spending a week on the summit, making lists of plants and other biota. I have published a list of the present flora of the upper slopes (Baldwin 1974b). The mountain is an example of what may be termed an induced pyric or man-caused timberline, since the summit lies below the climatic timberline at this latitude. Denudation by fire set by man has created an environment not unlike a true timberline. Surface wind has increased, temperature extremes are greater and soil has been destroyed or altered compared to adjacent wooded hills. Monadnock has become the most-climbed mountain in the world after Fuji; about 150,000 people visit it annually. All these changes have had a profound effect on all biota. Following the last great fire invasion of bare rock

by plants occurred rapidly at first, but restoration of the original vegetation has proceeded more slowly in recent years because of the increased exposure to wind and dryness at the higher elevations. The purpose of this paper is to describe the vegetation at different levels and the rate of progress toward reclothing the bare area as determined from the age and growth rate of spruce trees.

HISTORY OF THE VEGETATION. Plant succession following the last continental glaciation resulted in a mixed hardwood and spruce forest on the lower mountain slopes, merging gradually into pure red spruce (*Picea rubens*) on the thinner soils above 600 to 700 m. Historical records confirm that the higher part of the mountain was completely clothed with mature red spruce before the fires, and at the time of the first settlement (Baldwin *ibid.*). Here, spruce was in a marginal situation with its roots growing in humus on rock with little or no mineral soil yet present.

The fire of 1800 burned long in the duff, killing the trees. The 1815 hurricane completed their uprooting and the 1820 fire was of such extent and intensity that it consumed every bit of organic matter except a few of the larger stumps and logs. Thoreau reported 30 years later that there was firewood in abundance, but no vestige of the original forest now remains on the summit area.

Following denudation, invasion by lichens, mosses and other pioneer vegetation proceeded rapidly. A few arctic-alpine plants, such as *Arenaria groenlandica* whose nearest known natural habitat is at high elevations in the White Mountains,

¹ I wish to thank Dr. W. Dwight Billings of Duke University and Dr. H. David Hammond of SUNY, Brockport, N.Y. for reviewing the manuscript and making many helpful suggestions.

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Feb. 14, 1978.

Dear Henry & Birgit Baldwin:

Isa & I were interested in your Monadnock study. It will become increasingly important in keeping track decade after decade how this "island" within New Hampshire changes due to man alone, to what man does indirectly by burning fossil fuels & chopping jungles and what Universal influence like fluctuations in the sun's power does. (What an awful sentence!)

Two things bother us:

1. How many of the 150,000 "hordes" of people reach the summit? Certainly only a fraction unless an auto road reaches near it. Anyway, no matter if Rest Rooms are available or not, sewage from them and/or human urine otherwise scattered must be an influence NOW, which was absent in former Centuries.
2. What are *Arenaria groenlandica* seeds like? We have *Drosera* in the Kokee region of Kauai, evidently introduced 10,000-20,000 years ago according to Seiling's pollen investigations of the bogs. We suspect it came originally from Alaska, Aleutians or Siberia. I have frequently seen the golden plover in the same area with *Drosera* during the winter. Dr. Ziegenspeck & I once published an article. We (really his experiment) shook the microscopic seeds violently in a bottle of water. When he stuck a feather into the water, the seed because of lipid influence attached themselves to the feather. We drew the conclusion that *Drosera* got to Kauai via migratory golden plover. Was not *Arenaria* gr., "feather-introduced?"

Isa & I have been fighting the local hunters' wishes to keep upper Mauna Kea liberally stocked with feral goats & sheep, and to encourage the hybridizing of mouflon with the latter. H.I. Baldwin, not O. & I. Degener, would have been the logical man to conduct a M. Kea study.

We are both well and active; perhaps so well BECAUSE we are active. We are following your example.

Fond aloha to you both from us both,

Ch & Isa Degener

36 / Mr. Otto Degener, with warm
esteem and appreciation of his generous
gifts,
W. Dayton

Vom Flechtensterben im nördlichen Deutschland

Von OSCAR KLEMENT, Kreuzthal-Leutkirch *)

Mit 4 Abbildungen

Auf Grund langjähriger Feldbeobachtungen wird die fortschreitende Verarmung der Flechtenflora nachgewiesen; die möglichen Ursachen für das Flechtensterben werden diskutiert.

Über die Verarmung der Fauna und Flora in dichter besiedelten Gebieten Mitteleuropas ist schon seit Jahren viel geschrieben worden; sogar Tagespresse und Fernsehen haben dann und wann dieses Thema aufgegriffen. Aber nur ein verschwindend kleiner Teil unserer Zeitgenossen hat von dieser betrüblichen Erscheinung Kenntnis genommen oder gar ein Bedauern darüber empfunden. Völlig unbeachtet ist dabei der Rückgang einer Pflanzengruppe geblieben, die früher – nach alten Florenlisten zu urteilen – bei uns eine reiche Entfaltung aufzuweisen hatte: das Sterben der Flechten. Bei ihrer verhältnismäßig geringen Beachtung kann ihr rapider Rückgang nur in den wenigen Gebieten nachgewiesen werden, die sich einer besonderen Pflege der Lichenologie zu erfreuen hatten. Das trifft einerseits speziell für Nordwestdeutschland zu, wo der gelehrte Bäckermeister Dr. h. c. HEINRICH SANDSTEDT, Bad Zwischenahn, ein Leben lang intensivste Flechtenforschung betrieben hatte, und dann noch für Schleswig-Holstein, wo der Lehrer C. F. E. ERICHSEN, Hamburg, in Zusammenarbeit mit seinem Schüler, dem Kaufmann W. SAXEN, Tarp, gründlichste Forschungsarbeit geleistet hat.

Ein Vergleich der Florenverzeichnisse (SANDSTEDT 1912) und (ERICHSEN 1957) mit den Vegetationsverhältnissen der Gegenwart liefert ein betrübliches Bild, schon wenn man dabei nur die auffallenderen Laub- und Strauchflechten in Betracht zieht. Viele von ihnen, gut belegt durch eine Vielzahl älterer Herbarexemplare, sind in den letzten zwanzig bis dreißig Jahren nicht wieder gefunden worden. Zahlreiche Arten, die noch zwischen den beiden Weltkriegen als häufiger vorkommend bezeichnet wurden, zählen heute bereits zu Seltenheiten.

*) Dr. h. c. OSCAR KLEMENT, 7971 Kreuzthal-Eisenbach 130 über Leutkirch.

Otto Degener
regards to
A.C. Smith
(not to be taken
very seriously)

The Vegetation and Flora of Fiji*

ALBERT C. SMITH

A specialist in the taxonomy of flowering plants, the author (Ph.D., Columbia, 1926) collected the material for his article on his two visits to Fiji (1933-34 1947-48). Among his botanizing expeditions have been trips to Colombia, Peru, Brazil, and British Guiana. During these trips he prepared approximately 120,000 herbarium specimens; in between he has published more than a hundred technical papers, including floristic studies and monographs. He has been a staff member of the New York Botanical Garden and the Arnold Arboretum of Harvard University, and since 1948 has been curator of the Division of Phanerogams of the Smithsonian Institution.

THE first European discoverers of Fiji did not concern themselves about plants. The Dutch navigator Abel Tasman, who is credited with being the first white man to see any of the Fijian group, while steering a course from Tonga to the Indies in 1643, found himself entangled among reefs and islands in the northeastern part of Fiji. After a forced crossing of the dangerous Nanuku Reef, Tasman observed and charted about a dozen small islands, finally making his way into open water from one of the most hazardous mazes of reefs in the Pacific. He then left the region with all dispatch, and just in time, as a rising tempest would have made disaster inevitable.

Warned by Tasman's experience, navigators avoided the area for more than a hundred and thirty years. In 1774 Captain Cook, on his second voyage, approached the small island of Vatoa, in the southern Lau group. A few natives, presumably the first Fijians seen by Europeans, fled into the woods, but Cook's men left tools and trinkets

for them on the rocks. Vatoa was the only Fijian island seen by Cook.

Credit for the discovery of the major islands of Fiji goes to that accomplished navigator William Bligh. After the much-described mutiny on the *Bounty* in the Tongan group, in 1789, Bligh and eighteen of his men, set adrift without firearms in a tiny launch, found the natives of Tofua Island so inimical that they set sail for Timor, 3,600 miles to the west. During this amazing voyage Bligh sailed right through the center of the Fijian group, followed by the southeast trade wind. He saw and charted with remarkable accuracy numerous islands, including the two major ones, Viti Levu and Vanua Levu. One imagines the emotions of the starving and thirsting men as they traversed the reef-strewn passage between these large islands. To their north they may have seen the mass of Mount Seaturu, dominating western Vanua Levu; to the south lay the Kauvandra Range of northern Viti Levu, traditional home of the Fijian god Ndengei. But they were unable to seek food and water on those fertile shores because of the hostile natives, who pursued them in canoes. In 1792, un-

* Based in part on a paper delivered before the Section on Taxonomy of the Seventh International Botanical Congress, Stockholm 1950.