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About the Institute

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

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

November 27, 1985

Dr. L. Haegi
Adelaide Botanic Gardens abd State Herbarium
North Terrace
Adelaide, South Australia
AUSTRALIA

Dear Dr. Haegi:

I hope that you will recall that we met in Sydney during the last Botanical Congress in 1981. Since my book on the Eupatorieae is finished and will soon be published, I am now working with Prof. Bohlmann of Berlin on a book on the biochemistry of the Compositae. To this end we have made many collections of Compositae from many parts of the world except Australia.

I am now planning to come to Australia in 1986 to do some collecting of samples for my ~~biochemical~~ studies. Part of my trip will be spent in Western Australia and part in South Australia. I would like to ask you as to the best time to collect Compositae in South Australia? Also, would you be willing to work with me? We could publish the results together. Could you give me some idea of living costs? how much to rent a car etc? How long should it take me to get a good sample of the comps in South Australia?

I look forward to hearing from you.

Sincerely yours,

Robert M. King
Department of Botany

May 14, 1986

Dr. L. Haegi
Horticultural Botanist
Botanic Gardens
North Terrace
Adelaide 5000, South Australia
AUSTRALIA

Dear Laurie,

Please forgive the long delay in answering your letter, but as you may have heard from Harold Robinson, I broke my leg (the femur!). Things seem to have healed well and I am now walking without crutches. This means that my trip is on and I expect to see you in middle to late September.

Thanks so much for all the information that you sent me. It has been most helpful. I expect to arrive in Brisbane about the first of August. It will be very nice to see you again and to work with you for a week or so. If I have not run out of money by then it would be good to work with your colleague for another week or so. Thanks for your very kind offer to put me up while in Adelaide but I will be with my assistant, Dr. Earl Bishop and the two of us would be too much to ask of you.

I will be collecting mainly composites but we would like to get some other things. Earl will be interested in everything! Regarding the chemical material, I will need to collect about a kilo for analysis. I also plan to collect buds for chromosome study.

I hope that I have covered everything.

With kind regards,

Robert M. King
Department of Botany

July 23, 1986

Dr. L. Haegi
Botanic Gardens
North Terrace
Adelaide 5000
South Australia

Dear Dr. Haegi:

I hope that you recieved my earlier letter telling you about my broken hip. I have now somewhat recovered and will be arriving in Adelaide on September 19, on Flight #510 Trans Australian Airlines from Perth. My assistant, Dr. Bishop has taken another position so I will be traveling alone. I might take you up on your offer to have me stay with you if the offer is still open. I expect to be running out of money by that time. It depends on the U. S. dollar exchange rate at the time. I look foreward to meeting and working with you.

Sincerely,

Robert M. King

Department of Botany

The Botanic Gardens of Adelaide and State Herbarium

North Terrace, Adelaide, South Australia 5000
Telephone (08) 228 2311, Advisory 228 2322

1075
LH:ZMF

Dr. R.M. King,
Department of Botany,
Smithsonian Institution,
WASHINGTON C.D. 20560
U.S.A.

2nd October, 1986

Dear Bob,

I hope you had a fruitful time in Sydney, and a chance to relax a little before your long trip home. I thought the collecting trip went well - apart from getting a good range of material for your phytochemical survey, it was also a good opportunity for me to get out and refresh my memory with composites and the South Australian flora generally.

Several of the bulk collections were a little slow in drying, so I have put them out in trays to increase air circulation. We have had some warm sunny weather and I used this to effect.

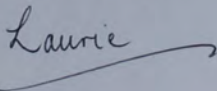
Enclosed is a list of the species we collected (I have determined and checked all the specimens) together with the latitude and longitude details I needed to calculate. I hope our late night effort with your collecting book didn't result in too many errors there!

So far as publication is concerned, you could include me as an author for the following genera: Cassinia, Cratystylis, Helichrysum, Ixiolaena, Millotia, Vittadinia. Some refinement may be necessary with Helichrysum if Paul Wilson's segregates become available before publication. If your main collections of Senecio, Brachycome and Calotis were in South Australia, I would like to be involved with those too.

The way things are progressing, I should be able to send the bulk material to Professor Bohlmann within the next few days, and the herbarium specimens to you shortly after.

All the best.

Yours sincerely,



L. Haegi,
Horticultural Botanist

November 12^m 1986

Dr. L. Haegi
Botanic Gardens of Adelaide
Noth Terrace
Adelaide, South Australia
Australia

Dear Laurie,

Thanks so much for your letter and the list of names which arrived earlier. Please forgive my late reply but I have been out of the office due to problems with my leg. I am well now. I so much enjoyed working with you and it was so nice of you to have me stay at your home. I consider my trip to South Australia a great success.

The specimens have still not arrived. Now that I have said that they will arrive next week! Did you send them via air?

Have you had time to consider the collecting trip to Queensland, NSW, etc that we talked about? I would really like to come back. I am sure that I can get the money. I will need to apply for it, however. Let me know.

Please say hello to Rosalind and the children for me.

Digitized by Hunt Institute for Botanical Documentation

Sincerely,

Robert M. King

Department of Botany

December 9, 1986

Mrs. Rosalind Haegi
Wittunga Botanic Garden
Blackwood 5051
South Australia
AUSTRALIA

Dear Rosalind,

Just a short note to thank you for your hospitality while I was in Adelaide. My trip, in general, was very very good. I do so much appreciate all your kindness. Please say hello to the children for me. I hope to come back to Australia in 1988 so perhaps I will see you then.

Sincerely,

Bob

Robert M. King
Department of Botany

December 19, 1986

Dr. L. Haegi
Botanic Gardens of Adelaide and State Herbarium
North Terrace
Adelaide
South Australia, 5000, AUSTRALIA

Dear Laurie:

Enclosed please find the labels for our collections in South Australia. They are not as nice as I would like but they will do. Let me know if you find any errors and I will make a new one.

The vouchers have still not arrived. I assume that they did not go by air. Hope that you have received the package that I sent to you.

I would like to request that you send me some viable seed of the *Bartlettina* that you have growing in your garden. I would also appreciate some seed of any *Banksia*. Thanks in advance.

By now you must have heard from Prof. Bohlmann regarding publishing.

Please give my best regards to everyone.

Sincerely yours,

Robert M. King

Department of Botany

The Botanic Gardens of Adelaide and State Herbarium

North Terrace, Adelaide, South Australia 5000
Telephone (08) 228 2311, Advisory 228 2322

1465
LH:CC

23 December, 1986

Dr R.M. King,
Department of Botany,
Smithsonian Institution,
WASHINGTON D.C., 20560,
U.S.A.

Dear Bob,

Thanks for your letter of the 12th November, 1986. Things have also been very busy here and I breathed a sigh of relief after sending off the latitudes and longitudes to you and the dried material to Professor Bohlmann. I was so pleased at getting all that done that I almost forgot about sending you the herbarium specimens, which were a little lower on the list of priorities. However they are now on their way, airmail so you should have them soon, even if not for Christmas.

Recently I had a friendly letter from Professor Bohlmann enquiring about some of the material sent. I hope no mix-ups occurred because I was very careful about ensuring the bags were labelled correctly. I guess the analyses would have been completed by now.

Since beginning this letter to you I have had some interruptions (lasting over a week - e.g. urgent proof-reading etc.) and in the meantime had a very pleasant surprise to receive the blanket from you in the post. I took the parcel home unopened and there was great excitement as we all opened it together. Many thanks - it's a superb piece, especially with the "children" motif - we all appreciate having a genuine piece of craftwork to use and admire. For the moment we have put it on the old oak spare bed - so no-one should get cold in there any more! Could you remind me from which South American country it comes from?

As to our field trip - I am keen to go and have put the proposal to the Director - response awaited. I guess you will need some details from me for planning. I suggest we make it a one-way trip Cairns-Adelaide, hiring a vehicle in Cairns. You would fly into Cairns and fly out from Adelaide. Do you think you would be able to find funds to fly me to Cairns to begin the trip? Four weeks would be sufficient to cover the ground reasonably comfortably.

To hire a vehicle similar to the one we travelled in last time would cost \$1,680 for the 4 weeks plus \$240 insurance plus fuel, with a 6,000 km distance limit. Any further mileage would be charged at the rate of 25¢ per kilometre. If on the other hand we began in Brisbane, drove up to Cairns and back down to Adelaide the cost would be the same but with unlimited mileage (capital city to capital city). Fuel and accommodation costs would be as indicated in my earlier letter in connection with the last trip - at current rates. Presumably

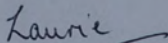
some allowance is made for inflation when planning for a trip in 1988. Should I attempt to raise any funds towards the trip from here? The best I could do would probably be a few hundred dollars.

It may be little consolation but after the unfortunate experience we had with our meal the night before you returned home, I wrote a rather long letter to the management expressing my amazement at the way we were treated. We eventually had a very apologetic response accompanied by an invitation to return for a meal as guests of the establishment. Rosalie and I went on our own - to the a la carte restaurant and had a very pleasant evening - toasting your health of course. We learnt that there had been other problems also and that the manager and supervisor had been dismissed. This all hardly makes up for the spoilt evening but I guess there is some satisfaction in the result and one probably can see the amusing side in hindsight.

With regard to your specimens, please keep an eye out for them - they are addressed to the Director and marked for your attention. They should arrive about the same time as this letter.

With very best wishes and Season's Greetings, also from Rosalie.

Yours sincerely,

A handwritten signature in cursive script, appearing to read 'Laurie', with a long horizontal flourish extending to the right.

L. Haegi

February 19, 1987

Dr. L. Haegi
Botanic Gardens and State Herbarium
Adelaide, North Terrace
South Australia 5000, AUSTRALIA

Dear Laurie,

Please forgive the long delay in answering your letter but I was in South America (Brazil and Bolivia). Thanks for your two letters. Professor Bohlmann has received the plant material in good condition. I am pleased to learn that he has written to you regarding publication. I am also glad that the blanket has arrived. It is from WEcuador high in the mountains.

The voucher plant specimens have arrived in good condition and will be mounted and filed in the herbarium soon. Thanks.

Regarding the proposed trip, I expect no problems in getting the money. Also, it should be no problem in getting the money for your airfare to Cairns. You might let me know in Australian dollars the cost of such a trip. I wonder if it might be better to rent a vehicle in Brisbane and get the unlimited mileage. My big problem is getting the results from my last trip. I still have not received the vouchers from Western Australia. Because of this we have not been able to work on the plants from Western Australia. I need to see the results from those plants in order to get more money.

Thanks also for the slide. I still have not finished my film.

I am glad that you returned to the restaurant and had a good time.
Thanks also for the seed which have been planted.

Sincerely,

Robert M. King
Department of Botany

Copy for RMK

The Botanic Gardens of Adelaide and State Herbarium

North Terrace, Adelaide, South Australia 5000
Telephone (08) 228 2311, Advisory 228 2322

254
LH:CC

4 March, 1987

Professor Dr F. Bohlmann,
Institut f. Organische Chemie
der Technischen Universität,
Sekt. C 3, Str.d. 17. Juni 135,
D-1000 BERLIN 12,
WEST GERMANY

Dear Prof. Bohlmann,

Thanks for the copy of the Cratystylis paper. I'm glad this unusual genus is also chemically interesting. Could I suggest some changes to the taxonomic parts of the introduction and discussion. My suggestions are as follows.

INTRODUCTION: replace with following:

The small Australian genus Cratystylis (Compositae, Tribe Inuleae) exhibits several features common to genera grouped around Pluchea in subtribe Inulinae [1]. However it is morphologically very distinct and appears to be isolated within the subtribe. Although some other members of the subtribe have been investigated, nothing is known of the chemistry of this genus. In an attempt to throw further light on its relationships, we have investigated Cratystylis conocephala (F.Muell.) S.Moore.

RESULTS AND DISCUSSION: bottom p.5: replace "The overall picture...." with the following:-

The results in part support the view based on morphology that Cratystylis is related to the Pluchea group of genera. Eudesmane derivatives and thiophenes similar to those found in Cratystylis are common in Pluchea [3] and Epaltes [2]. However, the chemical data also indicate a previously unrecognised close relationship with the Sphaeranthus group. Like Cratystylis, Sphaeranthus is characterised by the occurrence of thiophene acetylenes [6] and 2 α -hydroxycostic acid. Although some affinity with Pegolettia of the Inula group [1] is indicated, Cratystylis is overall very distinct from that group

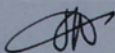
chemically. Further investigation of the chemistry of genera related to Cratystylis is clearly warranted from a chemotaxonomic viewpoint.

Your statement on page 5 that 'The absence of eudesmanolides.... is remarkable' is interesting and the reason may be obvious to a chemist. But I wonder why this absence is remarkable, and would be interested to know.

I hope you will find my suggestions for changes acceptable and consider incorporating them into the manuscript. I shall send a copy of this letter to Bob King.

With best wishes.

Yours sincerely,



L. Haegi,
Horticultural Botanist

March 12, 1987

Dr. L. Haegi
Botanic Gardens and State Herbarium
North Terrace
Adelaide, South Australia 5000
AUSTRALIA

Dear Laurie,

Thanks so much for your letter and the comments on the typescripts of Bohlmann's. I did not get a copy of the Cratystylis paper but I will ask Bohlmann in my next letter.

Regarding the Western Australian specimens, the chemical material did arrive in Berlin. However, the voucher specimens have not arrived. On September 18, Nick Lander promised me that he would send the vouchers the next week via air mail. In mid November I received a letter from Nick asking for some label data. I sent the information the same day as I received his letter and I also told him that the vouchers had not arrived and would he please check on them. In January I telephoned Nick Lander and asked him to find out where the specimens were. He asked for my telephone numbers and I gave him both the office and my home. He never called. A week later I telephoned Dr. Green. He seemed upset and said he would try to find out what happened and would get in touch with me. He never did. Finally I received a cable from Nick (copy enclosed). He said that he would send the names from the set left in Perth. I have heard nothing.

I assume that after 5 months that the vouchers are lost and stated that in a letter to Dr. Green dated February 24, 1987. I asked him to split the set of plants in Perth and send half to me via registered air mail and also to provide me with the needed identifications.

If you can ask Perth to send you half of the specimens for identifications and then forward this set to me from Adelaide that would be most useful and helpful. Perhaps you will find that Perth has already taken action. But if they have not yet done so, your offer of help may break the logjam. I will appreciate very much anything that you can do to resolve this matter.

Sincerely,

Robert M. King
Department of Botany

BK

March 31, 1987

Dr. L. Haegi
Botanic Gardens
North Terrace
Adelaide, South Australia 5000
AUSTRALIA

Dear Laurie,

Thanks so much for your very interesting letter. I am sure you know what I mean when I call it interesting! I still have not recieved any list of names or any soecimens. It is beyond me to think of all this happening and why. It certainly is a disgrace. I am inclosing copies of paul Wilson's and my answer. I really appreciate all that you have done on this matter.

Regarding 1988 - How much is your airfare to Brisban? How much will it cost to send our equipment there from Adelaide? Will there be a dropoff charge for leaving the truck in Adelaide? How will we dry our plants?

I hope that the next time that I write you I will have some good news about my plants.

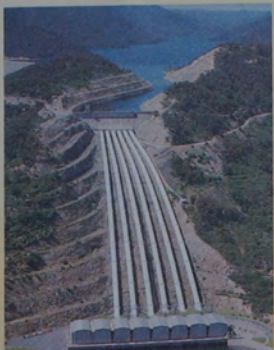
Sincerely,

Robert M. King

Department of Botany

BY AIR MAIL PAR AVION

AÉROGRAMME



Tumut 3 Power Station, Snowy Mountains Scheme, south-eastern New South Wales

53c AUSTRALIA



TO Dr R.M. King,
National Museum of Natural History,
Smithsonian Institution,
WASHINGTON D.C. 20560.

COUNTRY OF DESTINATION U.S.A.



SENDER'S NAME AND ADDRESS

Horticultural Botanist,

Botanic Gardens,

North Terrace,

ADELAIDE

SOUTH AUSTRALIA

POSTCODE 5000

FOLD SIDE FLAPS FIRST

FOLD SIDE FLAPS FIRST

DO NOT WRITE BEYOND THIS LINE
TO OPEN SLIT HERE FIRST

BOTANIC GARDENS, NORTH TERRACE, ADELAIDE, SOUTH AUSTRALIA, 5000

1433
LH:CK

8 December, 1987

Dr R.M. King,
National Museum of Natural History,
Smithsonian Institution,
WASHINGTON D.C. 20560,
U.S.A.

Dear Bob,

My director, Brian Morley, has just asked me to represent our organisation at an International Botanic Gardens Conference in Capetown, South Africa, from 29 August to 1 September, 1988. There are also two field trips involved, one pre-congress of a week's duration and a post-congress one of two week's duration. An additional week or two would probably be spent in herbaria sorting out a few taxonomic problems.

My first response to Brian was that I am already committed to our collecting trip in Queensland at around the same time next year. Since I haven't heard from you for a while it seemed clear the first thing to do was to ascertain how planning for our trip was progressing, and if it is still to go ahead.

If everything is in place as planned, I shall confirm my prior commitment with Brian and we can proceed from there. He may take the view that I can go on one trip or the other, not both - or on the other hand, it may be possible to do both trips.

I must say that although this very rare opportunity to travel to South Africa is most inviting botanically, I do have some reservations about travelling there. One can't help being a little suspicious about the motives behind the organisation of international conferences in South Africa at a time when the country is becoming increasingly isolated on humanitarian grounds. I have always taken a disdainful view of international (including Australian) sportsmen participating in South African sporting events to reap the lucrative financial rewards offered.

Your book is still being admired by all who see it and I am finding it very useful.

Best wishes.

Yours sincerely,

Laurie

L. Haegi,
Horticultural Botanist

December 8, 1987

Dr. L. Haegi
Botanic Gardens and State Herbarium
North Terrace
Adelaide
South Australia 5000
Australia

Dear Laurie,

Please excuse the long delay in answering your last letter. The reason is that I have been on several long trips overseas.

I hope that you have recieved your copy of the Eupatorieae book by now. Needless to say I am rather pleased with it. I doubt that I will like the reviews.

What is the best season to collect in Queensland, New South Wales and perhaps Victoria? Also, is any special permit needed to ship either chemical s samples or herbarium vouchers overseas directly via air cargo.

I hope that everything is going well with you and your family. I am still having trouble with my right leg. The knee joint may have to be replaced.

Sincerely,



Robert M. King

Department of Botany

January 14, 1988

Dr. L. Haegi
Botanic Gardens
North Terrace
Adelaide
South Australia 5000
Australia

Dear Laurie,

Thanks for your last two letters. I am glad that you like the book. In regard to our collecting trip to Queensland, and your trip to South Africa I think that you had better go to South Africa during that time. As I told you in an earlier letter, I may need to have an operation on my right knee. If this happens, I might not be able to go anyway.

I need to ask you some questions about collecting in Queensland and NSW. Do I need a permit to collect? to ship chemical material to Berlin? to ship herbarium specimens to Washington? It may be possible for my assistant, Dr. Earl Bishop to come with me.

I would not worry about going to South Africa. You could be going to the South Africa of the Middle East.

Sincerely,


Robert M. King

March 8, 1988

Dr. L. Haegi
Botanic Gardens and State Herbarium
North Terrace
Adelaide
South Australia 5000
Australia

Dear Laurie,

Thanks for your letter and all the information. I am glad that you will be able to go to South Africa. With regard to my trip to Australia, I could come in late spring (October-November) if you think that you could get away then. I am only interested in collecting as many different genera and species as possible. I am willing to let you decide when and where we should go. You would know best. I will have enough money for about one month. Let me know.

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Sincerely,



Robert M. King
Department of Botany

June 20, 1989

Dr. L. Haegi
Botanic Gardens
North Terrace
Adelaide
South Australia 5000
Australia

Dear Laurie,

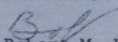
Enclosed please find copies of some of the pictures that I took of you when I was in Australia. Also, there is a picture of Philip Short that was taken in January in his office. Copies of these pictures will also be sent to the Hunt Library. I expect that the Hunt will contact you later.

In January I was in Victoria and New South Wales for a collecting trip. I had a wonderful time. Philip was very helpful and made all of the identifications for me. All the people in his herbarium were very helpful. I might say it was just the opposite of that I received in Perth.

Hope that all is well with you.

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Sincerely,


Robert M. King

Department of Botany

Northwest Plateau Institute of
Biology , Academia Sinica
Xining, Qinghai Province
People's Republic of China
June 14, 1981

Dr. Robert M. King
Smithsonian Institute
Washington,
DC 20560,
U.S.A

Dear Dr. Robert M. King:

I have the pleasure to write you in order to ask whether it would be possible for you to give me an opportunity to work and study in your laboratory for two years. My government will finance my travel expenses and the major portion of my living costs.

I have heard that you had great success in the study of phytochemistry. I am very interested in your work because I have been working on this field for many years. In Qinghai-Tibet plateau there are great many valuable plants and some of them are peculiar to this area. Most of them have never been studied chemically. I have studied some species of Rhododendron and other plants, but in order to improve my study I would like to go to your country to carry out some research work and further studies under your warm and expert guidance.

I entered the Chemical Department of Northwest University in September, 1955 and Beijing University in September, 1958. After graduation, I worked as a researcher in Northwest Institute of Chemistry, Academia Sinica from 1959 to 1971.

From 1971 until now I have been working in the Northwest Plateau Institute of Biology, Academia Sinica, Xining, Qinghai province.

I would be very much obliged, if you could help in making appropriate arrangements for me. I am hoping for a favourable answer.

With personal regards.

Sincerely yours,

Yang Hairang

Yang Hairang

Research assistant professor

357-2545

June 26, 1981

Dr. Yang Hairang
Research Assistant Professor
Northwest Plateau Institute of Biology
Academia Sinica
Xining, Qinghai Province
People's Republic of China

Dear Dr. Hairang:

Thanks so much for your very kind letter. I would be delighted to have you study here at the Smithsonian, unfortunately we only do the systematic part of the work here. All of the analysis is done in the laboratory of Professor Dr. F. Bohlmann in Berlin, West Germany. I have sent a copy of your letter to him and I expect that he will probably contact you directly.

Sincerely,

Robert M. King
Department of Botany

cc: Dr. F. Bohlmann

Northwest Plateau Institute of Biology
Academia Sinica
Xining, Qinghai, China

July 29, 1981

Dr. Robert M. King
Department of Botany,
Smithsonian Institution,
Washington, DC 20560
U.S.A

Dear Dr. King:

I have just read your letter of June 26 with much pleasure.

I am very grateful to you for your introducing Prof. F. Bohlmann
to me. I have received a letter from Prof. Bohlmann. He said I could

work in his laboratory in Berlin. I would write to him and thank
him for his kind answer. I hope I could work in your group under
your guidance, but I do not understand German. I think if I go
there I shall have many difficulties in my working and living.
In spite of this, I still expect that I could get a opportunity
to go to the laboratory of Professor Dr. F. Bohlmann. Let's
keep in touch in future.

With my best wishes.

Sincerely yours

杨海荣
Yang Hairong

357-2545

March 12, 1981

Dr. R. M. Harley
The Herbarium
Royal Botanic Gardens
Kew, Richmond
Surrey TW9 3AE
England

Dear Ray:

Thanks so much for sending your list of determinations of our plants from Bahia. I sent a copy on to Scott Mori.

I just returned from a collecting trip to Brasil in the states of Minas Gerais, Bahia and Goyas. I spent most of my time on Bahia and returned to Mucaje and the Pico das Almas. Needless to say I collected many interesting plants, including three new genera and many new species. We will, of course, be sending a set to Kew.

I plan to be in Europe in April and will visit Kew. I hope to see you then.

Sincerely,

Robert M. King
Department of Botany

357-2545

February 25, 1981

Dr. Peter Heinstein
Department of Medicinal Chemistry and
Pharmacognosy
School of Pharmacy and Pharmacal Sciences
Purdue University
West Lafayette, Indiana 47907

Dear Dr. Heinstein:

Please find enclosed the seed that I mentioned to you this morning. Let me know which numbers germinate and I can send you the names.

Sincerely,

Robert M. King
Department of Botany

Digitized by Hunt Institute for Botanical Documentation



FUNDAÇÃO INSTITUTO BRASILEIRO DE GEOGRAFIA E ESTATÍSTICA
IBGE

Herbário da Reserva Ecológica do IBGE

Shipping Notice N.º 70/81
Data August 26, 1981
N.º of Packages one
Shipped by air

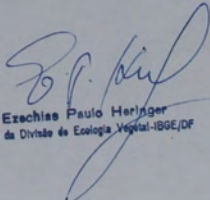
To: Dr. R. M. King
Department of Botany
Smithsonian Institution
Washington, DC 20560 U.S.A.

The Herbarium of the Reserva Ecológica do IBGE is sending to you specimens as indicated below. Upon the arrival of the shipment, verify its contents and acknowledge by signing and returning the yellow copy.

- ☒ Gift
☐ Exchange
☒ For identification
☐ Return of borrowed material
☐ Loan N.º

DESCRIPTION OF SPECIMENS

Compositae - 203, 392, 387, 892, 909, 910, 1198, 1682, 1688, 1701, 1704,
1769, 1779, 1818, 1921, 1950, 1989, 2302, 2487, 2703, 2762, 3005, 4582,
4387, 4531, 4601, 4864, 5204, 5217, 5242, 5831, 5841, 5893, 5897, 5900,
5905, 5961, 6010, 6038, 6040, 6051, 6109, 6124, 6125, 6183, 6184, 6781,
7089, 18138, 18145.
sementes do material n.º 892
folhas para análise química.


Ezequias Paulo Herlinger
Chefe da Divisão de Ecologia Vegetal-IBGE/DF

Department of Chemistry

The Florida State University
Tallahassee, Florida 32306



September 14, 1981

Dr. R. M. King
Department of Botany
Smithsonian Institution
Washington, DC 20560

Dear Dr. King:

I would appreciate receiving your most recent reprints
(from No. CIXC on) "Studies in the Eupatorieae" which have
appeared in Phytologia.

With best regards,

Sincerely yours,

Werner Herz
Professor of Chemistry

Digitized by Hunt Institute for Botanical Documentation

WH/mj

September 15, 1981

Mrs. O. M. Hilliard
Department of Botany
University of Natal
Pietermaritzburg 3200
South Africa

Dear Mrs. Hilliard:

I have read with great interest your papers on Compositae (Inuleae) in the recent issue of the Botanical Journal of the Linnean Society. Would it be possible for you to send me reprints of these and other papers that you have on Compositae?

On another matter, I wonder if you have specimens of African Compositae available for exchange. I am very interested in increasing our holdings in African Compositae. What would you like to receive in return?

Sincerely yours,

Robert M. King
Department of Botany

UNIVERSITY OF NATAL

Tel. Add. "UNIVERSITY"

Dept. of Botany

TELEPHONE 63320



P.O. Box 375
PIETERMARITZBURG

Dear Dr. Kuy,

Thank you for identifying
Baccharis pumila for me. I am
glad the specimen is an addition
to your herbarium.

Yours sincerely,

Oliver Hillman.

UNIVERSITY OF NATAL

Tel. Add. "UNIVERSITY"

Dept. of Botany

TELEPHONE 63320



P.O. Box 375
PIETERMARITZBURG

7th Oct. 1981.

Dear Dr. King,

I have sent off reprints of two of the Linnean Society reprints; the other two will be forwarded by Mr. Bennett.

Unfortunately we have just distributed all our duplicates, but I will certainly bear your request in mind. As this is only a small regional herbarium, we prefer literature in exchange. But if you have nothing to send, it is of no consequence.

Yours sincerely,

A. Williams

357-2545

November 16, 1981

Mrs. O. M. Hilliard
Department of Botany
University of Natal
Pietermaritzburg 3200
South Africa

Dear Mrs. Hilliard:

Thanks so much for your letter. Under separate cover I have just sent you a set of reprints. I will add your name to our reprint list for future distribution.

We will appreciate any specimens of Compositae that you might be able to send.

Sincerely yours,

Robert M. King
Department of Botany

UNIVERSITY OF NATAL

Tel. Add. "UNIVERSITY"

Dept. of Botany

TELEPHONE 63320



P.O. Box 375

PIETERMARITZBURG

26th Jan. 1982

Dear Dr. King,

Thank you very much
for the huge pile of reprints, for which
we are very grateful.

I shall send some
Composite duplicates as soon as I am
able. I shall also include a weed,
newly recorded here, for which I should
be grateful for a name.

Yours sincerely,

Oliver Williams.

357-2545

May 10th 1982

Mrs. O. M. Hilliard
Department of Botany
University of Natal
Pietermaritzburg 3200
South Africa

Dear Mrs. Hilliard:

The specimen that you sent for identification has arrived.
We have identified the specimen as *Baccharis pingreea* DC.
This species is a native of Argentina and we have no previous
collections of it.

Very sincerely,

Robert M. King
Department of Botany

October 30, 1986

Mr. Philip Hollow
P. O. Box 884
Renmark 5341
South Australia
AUSTRALIA

Dear Phil,

I just wanted to thank you for your help while I was visiting the Dangdali Conservation Park. I must say that I had a very nice time while I was in Australia. You have a beautiful country!

Thanks again.

Sincerely,

Robert M. King
Bob King
Department of Botany

Digitized by Hunt Institute for Botanical Documentation

March 21, 1983

Dr. William C. Holmes
Dept. of Biological Sciences
University of Louisiana
Natchitoches
Louisiana

Dear Dr. Holmes:

I would like to request a reprint
of your excellent paper on the Revision
of Old World Mikania.

We have completed the m.s. for
the Eupatorium and it should be
published sometime this year.
I will send you a copy when
available.

Sincerely
Robert M. King
Dept. of Botany

PROPOSAL NO. DEB-8206749	INSTITUTION NORTHWESTERN ST UNIV-IL	PLEASE RETURN BY
PRINCIPAL INVESTIGATOR HOLMES	WALTER C	NSF PROGRAM SYSTEMATIC BIOLOGY PROGRAM
TITLE MONOGRAPH OF MIKANIA (COMPOSITAE-EUPATORIEAE)		

COMMENTS (CONTINUE ON ADDITIONAL SHEET(S) AS NECESSARY)

QUALITY OF THE PROPOSED RESEARCH (INCLUDING BUDGET AND INSTITUTIONAL CAPABILITY): There is some merit in this proposal. However, a major problem is the apparent acceptance of the inflorescence types as natural groups. Certainly, the guaco and scandens elements with corymbose forms are not closely related, and psilostachya and houstoniana types in the spicato-ramosae are not close. Also, some species such as M. tysonii do not fit well in any of the groups. In spite of this, every synonymy that Holmes discovers and every classification of species limits and distribution is of value. The P.I. has indicated prior field experience. I wish that he had indicated where. I have serious doubts about the P. I. collecting roots and lower stems of Mikania. My own experience has been that getting these parts is often very difficult and usually next to impossible. He mentions collecting material for chromosome study but makes no mention of the problems of getting chromosome numbers in this genus. The P. I. is overly harsh on the work of G M Barroso. I would only comment that while her work is far from perfect, I would consider it to be reasonable considering her herbarium and library. I don't believe that this project can be completed in two years. A better estimate would be at least ten years.

RECENT RESEARCH ACHIEVEMENTS OF THE PRINCIPAL INVESTIGATOR(S):

The P. T. has completed a number of short pages on Mikania with Sidney McDaniel. Unfortunately, his major work on the Mikanias of Peru ~~has~~ not been published. I believe that the P. I. has a good background for completing a monograph of Mikania.

OVERALL RATING: ☐ EXCELLENT ☐ VERY GOOD ☒ GOOD ☐ FAIR ☐ POOR

Verbatim but anonymous copies of reviews will be sent only to the principal investigator/project director. Subject to this NSF policy and applicable laws, including the Freedom of Information Act, 5 USC 552 and formal requests from Chairpersons of Congressional committees having responsibility for NSF, reviewers' comments will be given maximum protection from disclosure.

REVIEWER'S SIGNATURE

REVIEWER'S NAME (TYPED)

OTHER SUGGESTED REVIEWERS (OPTIONAL)

Robert M. King.

REVIEWER'S COPY

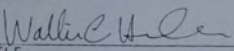
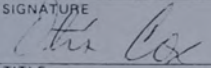
RUN DATE: 01/13/82

APPENDIX I

PROPOSAL TO THE NATIONAL SCIENCE FOUNDATION

Cover Page

82-06749

FOR CONSIDERATION BY NSF ORGANIZATIONAL UNIT (Indicate the most specific unit known, i.e. program, division, etc.) Environmental Biology-Systematic Biology		IS THIS PROPOSAL BEING SUBMITTED TO ANOTHER FEDERAL AGENCY? Yes ☐ No ☒ ; IF YES, LIST ACRONYM(S):	
PROGRAM ANNOUNCEMENT/SOLICITATION NO.:		CLOSING DATE (IF ANY):	
NAME OF SUBMITTING ORGANIZATION TO WHICH AWARD SHOULD BE MADE (INCLUDE BRANCH/CAMPUS/OTHER COMPONENTS) Department of Biological Sciences Northwestern State University			
ADDRESS OF ORGANIZATION (INCLUDE ZIP CODE) Natchitoches, Louisiana 71457			
TITLE OF PROPOSED PROJECT Monograph of <u>Mikania</u> (Compositae-Eupatorieae)			
REQUESTED AMOUNT \$61,111	PROPOSED DURATION 2 years	DESIRED STARTING DATE 1 July 1982	
PI/PD DEPARTMENT Biological Sciences	PI/PD ORGANIZATION Northwestern State University Natchitoches, LA 71457		PI/PD PHONE NO. (318) 357-4485
PI/PD NAME Walter C. Holmes	SOCIAL SECURITY NO.* 436-66-7261	DATE OF HIGHEST DEGREE ACHIEVED 1975	MALE* ☒ FEMALE* ☐
ADDITIONAL PI/PD			
ADDITIONAL PI/PD			
ADDITIONAL PI/PD			
ADDITIONAL PI/PD			
FOR RENEWAL OR CONTINUING AWARD REQUEST, LIST PREVIOUS AWARD NO.:		IF SUBMITTING ORGANIZATION IS A SMALL BUSINESS CONCERN, CHECK HERE ☐ (See CFR Title 13, Part 121 for Definitions)	
* Submission of SSN and other personal data is voluntary and will not affect the organization's eligibility for an award. However, they are an integral part of the NSF information system and assist in processing proposals. SSN solicited under NSF Act of 1950, as amended.			
CHECK APPROPRIATE BOX(ES) IF THIS PROPOSAL INCLUDES ANY OF THE ITEMS LISTED BELOW:			
☐ Animal Welfare	☐ Human Subjects	☐ National Environmental Policy Act	
☐ Endangered Species	☐ Marine Mammal Protection	☐ Research Involving Recombinant DNA Molecules	
☐ Historical Sites	☐ Pollution Control	☐ Proprietary and Privileged Information	
PRINCIPAL INVESTIGATOR/ PROJECT DIRECTOR	AUTHORIZED ORGANIZATIONAL REP.	OTHER ENDORSEMENT (optional)	
NAME Walter C. Holmes	NAME Otis Cox	NAME	
SIGNATURE 	SIGNATURE 	SIGNATURE	
TITLE Associate Professor	TITLE Director, Institutional Research & Sponsored Prog.	TITLE	
DATE 23 December 1981	DATE December 23, 1981	DATE	

APPENDIX II

NOTICE OF RESEARCH PROJECT
SCIENCE INFORMATION EXCHANGESMITHSONIAN INSTITUTION
NATIONAL SCIENCE FOUNDATION
PROJECT SUMMARYPROJECT NO. (Do not use
this space)

NSF AWARD NO.

NAME OF INSTITUTION (INCLUDE BRANCH/CAMPUS & SCHOOL OR DIVISION)

Department of Biological Sciences
Northwestern State University

MAILING ADDRESS

Natchitoches, Louisiana 71457

PRINCIPAL INVESTIGATOR AND FIELD OF SCIENCE/SPECIALTY

Walter C. Holmes

Systematic Botany

TITLE OF PROJECT

Monograph of Mikania (Compositae-Eupatorieae)

SUMMARY OF PROPOSED WORK (LIMIT TO 22 PICA OR 18 ELITE TYPEWRITTEN LINES)

Mikania is one of the largest genera of the Compositae-Eupatorieae with nearly 400 species presently being recognized. It is expected that the number of species for the genus may approach or exceed 500. Although the genus is one of the most morphologically distinct and easily recognizable of the family, the vast number of species and presence of several "species complexes" have made it extremely difficult to understand. This, coupled with its very widespread distribution, has been partly responsible for the vast amount of literature, mostly in piece-meal fashion, concerning the group. The need now is for a worldwide treatment of the genus. This proposal is a plan to complete a modern systematic revision of Mikania on a worldwide basis. The study, it is estimated, will take three years, in addition to the eight years the investigator has been previously occupied with the group so far. The proposed study is well in progress, with treatments having been completed for over 140 species. Previous support has been given to this project by Northwestern State University and the Institute for Botanical Exploration.

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VISION (OFFICE) AND DIRECTORATE

PROGRAM

SECTION

PROPOSAL NO.

F.Y.

FOR DGC USE ONLY

ART AND END CATES

AMOUNT GRANTED

FORM 4 (7-78)

1. Proposal Folder 3. Division of Grants & Contracts 5. Principal Investigator 7. Assistant
2. Program Suspense 4. Science Information Exchange 6. Off. of Govt. & Pub. Progs. Director

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INTRODUCTION

Mikania (Compositae-Eupatorieae) is a well marked genus of mostly perennial twiners. A few species are erect to shrubby. Leaves are opposite to rarely verticillate, simple, and have entire to serrate-dentate margins. About ten species have compound leaves. Heads are singularly uniform, making it one of the most distinctive and easily recognized genera of the Compositae. Each is subtended by an exterior bract and possesses four subequal phyllaries enclosing four flowers. Flowers are discoid, normally with the corolla being amply divided into the tube and throat, which possesses five teeth. Achenes are prismatic or tapering downward and five-angled. Pappus bristles are capillary, typically have scabrid margins, although a few have smooth margins, and usually number 30-60 or more. This uniformity within the capitulum is not reflected in their disposition into an inflorescence of a secondary nature (capitulescence), one of the most useful taxonomic characters in the genus. These may be spicate, racemose, paniculate, corymbose (including ternately branching corymbs), cymose (compound dichasium), or glomerate. Certainly no genus of the Eupatorieae, and possibly the Compositae, exhibits more diversity in the type of Capitulescence.

Willdenow (1803) proposed the genus and recognized fourteen species. Since then, the number of known species has rapidly increased. De Candolle (1836) recognized 111 species, while Baker (1876) included no less than 110 in the Brazilian area. Robinson (1922) placed the number of species at about 270. Under the traditional classification system of the Eupatorieae, Mikania has long been regarded as one of the largest

genera of the tribe. If the proposals of Robinson and King (1977) are followed, who estimate the number of species at 300, it becomes the largest genus of the tribe. A current literature count shows that there are nearly 400 species with fair claim to validity, with more being proposed periodically. (Table 1 enumerates the number of known species by their country of occurrence.)

The genus is pantropical and temperate American in distribution, but by far attains its best expression in tropical South America. The major center of concentration appears to be Brasil, where 170 species are reported, 140 of these being endemic (Barroso, 1958; Holmes and McDaniel, 1975, 1979; Baker, 1876; and King and Robinson, 1980). The vast majority are distributed in eastern and southern Brasil. There appears to be a second distribution cluster centered in the Andean foothills and adjacent lowlands of western and northern South America.

This area, comprised of parts of Bolivia, Peru, Ecuador, Colombia, and Venezuela, has about 150 species reported, with about 130 of these being endemic to their specific countries of occurrence. Evidence indicates that the number of known species in this area will increase significantly. For example, Robinson (1922) reported 37 species in Peru, whereas 76 are now known (Holmes & McDaniel, 1981). Robinson also reported 13 species for Venezuela, while 33 are now known (Aristegueita, 1964; King and Robinson, 1974). It is expected that a similar increase in the number of species will also occur in Bolivia, Ecuador, and Colombia. It is important to note that few species have been proposed for these three countries since 1935.

The number of species is markedly reduced north or south and also between the two distribution clusters. Barroso (1958) cites less than twelve species for the western provinces of Brasil (Acre, Amazonas, Rondônia, and Roraima), an amazingly low number considering floristically similar and adjacent lowland Peru has well over 30 known species in a much smaller area. Additional studies will undoubtedly add many more species, but not necessarily new, to the Brazilian area. About 80 species are known from Central America and the Antilles, with slightly over half being endemic. Mikania is poorly represented in the Old World. Nine species are known, seven of which are endemic.

The sheer size of the genus has, until now, discouraged any attempt at an overall worldwide revision of the genus during recent times.

Importance of the Project

Treatment of the genus - correcting older mistakes

Many of the works concerning Mikania are hopelessly outdated, especially in view of the increased botanical activity in the American tropics in recent years. These outdated works have been largely augmented by proposals of many new species. This makes determinations difficult, if not impossible, without an extensive library and/or reference and comparison to type specimens. Also, the works now considered current are mainly "piece-meal" treatments for rather limited geographical areas. For the most part, these treatments fail to compare the "local species" of these limited areas with similar, related, or the same species from other areas. This often results in a needless retention of names or proliferation of synonymy. Some examples of very restricted "species" that have been found to be more widespread:

Mikania loretensis B.L. Robins., considered a Peruvian endemic, is the same as M. parviflora (Aubl.) Karst. (Holmes and McDaniel, 1981).

M. eupatorioides Blake, a Costa Rican endemic, is the same as M. aschersonii Hieron. of Peru, Colombia, and Ecuador (Holmes, in ed.)

M. brachiata Poepp., of Peru, is the same as M. guaco H. & B. (Holmes and McDaniel, 1979).

M. parodii Cabrera, of southern Brasil and northern Argentina, is synonymous with M. mendocina Phil. of Argentina and Chile.

Other species found to be more widespread than previously known are:

M. gonzalezii Robins. & Greenm., once known only from Mexico, is cited in Colombia (Robinson, 1928) and also in Panama (Holmes, in ed.)

M. cristata B.L. Robins., previously a Costa Rican endemic, also in Panama (Holmes and McDaniel, 1979).

M. mathewsii B.L. Robins., of Peru, is now known in Colombia (Holmes, in ed.).

M. microptera DC., previously known from a very few specimens from Brasil, Peru, and Bolivia, has been confirmed in much of northern South America and also Africa (Holmes and McDaniel, 1979).

Numerous other examples could be cited, but the above adequately illustrates the problems associated with "piece-meal" treatments.

An extreme example of this is illustrated by the species complexes.

These include the Mikania vitifolia DC. and M. hookeriana DC. complexes (Robinson, 1934a) and the M. banisteriae DC. complex (Steyermark, 1953). Each of the above, now considered highly polymorphic and very widespread, was once subdivided into numerous, rather local species. Additional collecting of intermediates and careful study showed these local species to hardly be worthy of even the formal status. These three complexes still need further study and more precise definition from some of the Brazilian plants with near affinities.

The opposite is also true; i.e., what was considered to be a highly polymorphic and widespread species has been shown to be composed

of numerous and easily separable segregates with in many cases mutually exclusive ranges. The best example is Mikania scandens (L.) Willd., a species once considered to be of pantropical and temperate American distribution (Robinson, 1934b, Holmes, 1975). Careful analysis revealed the complex consisted of not less than twenty species, including such well known plants as M. micrantha HBK., M. congesta DC., M. carteri Bak., M. cordata (Burm. f.) B.L. Robins., M. periplocifolia H. & A., M. ranunculifolia Rich., and M. amblyolepis B.L. Robins. (under the synonym M. panamensis B.L. Robins. Interestingly, M. amblyolepis was not even placed in the same section (Corymbosae) as the M. scandens affinity, but in section Thyrsigerae in Robinson's (1922) treatment of the Mikania of Colombia. Currently, M. scandens is largely restricted to the United States. However, this has caused M. cordata to assume the position among the Old World Mikania formerly held by M. scandens:

a name of convenience. It currently is used incorrectly to refer to most of the nine species of Mikania known from the Old World. It is expected that other species complexes will be encountered. Two under investigation at this time are the Mikania parviflora and the M. trinitaria DC. -M. allartii B.L. Robins. - M. speciosa complexes.

Current works, in many instances, are poorly done or need substantial revision. Barroso (1958), in his Mikania of Brasil, failed to treat or reduce the following species proposed by Gardner (1846): M. lanigera, M. strobilifera, M. deflexa, M. idelfonsiana, M. nigricans, M. variabilis (= M. micrantha HBK.), M. subcordata, M. umbellifera

(= M. micrantha), and M. cocaensis. Mikania widgrenii B.L. Robins. is also omitted, possibly by clerical error. He also provides partial reduction of Kanimia, yet for no reason fails to reduce or indicate the status of the other species placed in the genus. (Kanimia is considered synonymous with Mikania). Barroso's diagnosis of M. parviflora (Aubl.) Karst., M. divaricata Poepp., and M. cynanchifolia H. & A. are all incorrect. Numerous other errors of this nature could be cited. Descriptions are brief, keys inaccurate and difficult to use (they often do not work even when checked against the author's own determinations). Another major shortcoming is that few herbarium collections were utilized during the study (only G, LP, M, P, R, RB, & S are cited), thereby giving poor distributional data. Malme (1933) reported 39 species for Parana, yet Barroso only cites 33 (about 70 are now known.) It is inconceivable that the major work on the Brazilian Mikania could be completed without examination of the types of Baker and of Gardner housed at K and BM, or the types of B.L. Robinson located at GH and other United States herbaria. In short, his work appears to be no more than an inaccurate and incomplete compilation that has more errors and inconsistencies than good points.

In their treatment of the Mikania of Panama, King and Robinson (1975) report 14 species. Mikania cristata B.L. Robins. was not included, yet Panama collections of this plant are well represented in herbaria (Holmes and McDaniel, 1979). Mikania lindleyana DC. was not included, yet it was reported in Panama in 1928 by B.L. Robinson (I

have examined the specimen, Hayes 490 BM, which is correctly determined.) Mikania gonzalezii Robins. & Greenm. was to be expected there since B.L. Robinson reported it in Colombia in 1928. It has since been confirmed as occurring in Panama (Holmes, in ed.) Also, studies on the Central American Mikania indicate that M. tonduzii B.L. Robin. is synonymous with the older M. aromatica Oerst. In another current work, Nash and Williams (1976), in their work on the Mikania of Guatemala, several errors are present. Mikania pyramidata Donn. -Sm. is a synonym of the earlier M. eriophora Sch. -Bip. ex Hemsl., which itself needs better definition from the South American M. hirsutissima DC. Mikania globosa Coult., treated as a synonym of M. aromatica, is, from my observations, a distinct species. Mikania petrina Standl. & Steyerl., is provisionally separated from M. cordifolia (L. f.) Willd. but has no described differences, other than in pubescence, which is extremely variable in the latter species. Clewell's (1975) treatment of the Mikania of Honduras is nearly identical to that of Nash and Williams treatment of the Guatemalan species, with many of the same errors.

Other errors and inconsistencies could be cited in these and other current works, which apparently were caused by a "piece-meal" approach. The point is simple. The need is for a systematic revision of the genus on a world wide basis. Any other approach will only proliferate such errors as mentioned above.

Natural classification system

One of the primary needs within the genus is the construction of a classification system that will reflect the natural affinities that exist between the various species. This was first attempted by de Candolle (1836), later followed by Baker (1876) with slight modification. The genus was divided into sections based on discordant elements. Thus some were separated on the basis of habit (twining or erect stems), some on nature of the capitulescence, others on the presence or absence of stipule-like enations, or even leaf bases and contours. Needless to say, this was highly artificial and did not reflect the natural affinities in the genus. Although not given official status, a more natural system was suggested by Urban (1907) in his key to species in his treatment of the Antillian *Mikania*. The species are consistently separated by the nature of the capitulescence. Robinson (1922), taking one of the sections proposed by de Candolle and using the ideas of Urban, divided the genus into five sections (referred to as series by Robinson) based solely on the nature of the capitulescence. These were:

1. Spiciformes DC.
2. Racemosae B. L. Robins.
3. Thyrsigerae B. L. Robins.
4. Corymbosae B. L. Robins.
5. Globosae B.L. Robins.

Admittedly, there was much intergradation between the sections, but it

did reflect, more naturally, the major trends within the genus. Barroso (1958), in his treatment of the Brazilian Mikania, modified Robinson's sections somewhat, combining the spicate and racemose into Spicato-racemosae, as done by Baker (1876). This appears to be correct because of the extreme amount of intergradation between the two types of capitulescence, often on the same specimen. Barroso also resurrected the discordant element theme by recognizing the section Partitae DC., characterized by its compound leaves rather than by nature of the capitulescence.

Most of the recent workers in the genus have abandoned the section concept in favor of an alphabetical arrangement (Aristeguieta, 1964; Holmes and McDaniel, 1981; King and Robinson, 1975; Nash and Williams, 1976; and others). This arrangement is more convenient for works of limited geographical areas, but fails to recognize one of the major goals of systematic botany; i.e., giving expression to natural affinities between plants.

The investigator's studies indicate that it appears best to recognize three sections: 1. Spicato-racemosae Baker 2. Thyrisigerae B.L. Robins. and 3. Corymbosae B.L. Robins. Reduction of sections Globosae B.L. Robins. appears justified because it appears to have originated independently from each of the three recognized sections. For example, Mikania congesta DC., placed in the Globosae, has a capitulescence that appears to be a very condensed corymb and should be placed in the Corymbosae. Mikania hookeriana DC., also placed in the Globosae, has a capitulescence appears to be a shortened

spike and is better included in the Spicato-racemosae. Other species such as Mikania haenkeana DC., M. megalophylla Holmes and McDaniel, and M. desmosephala B.L. Robinson, because of disposition of their capitula into interrupted spike-like glomerules, indicate excessive intergradation between the two sections Globosae and Spicato-racemosae). It appears that recognition of the three named sections would more accurately reflect the major evolutionary trends within the genus and would eliminate much of the intergradation between the sections, as they now exist.

Relationships between capitulescence and pollinators

Leppik (1977) suggests that there is a definite relationship between the aggregation of capitula into secondary clusters (referred to as conflorescences=capitulescences of this proposal) and the type of insect pollinator. The small capitula and unexceeded diversity in their clustering into capitulescences within Mikania provide an ideal opportunity to study this phenomenon under more controlled conditions (i.e., within one genus). If a definite correlation can be determined, it would certainly yield information that could possibly be transposed to other members of the tribe or family. It may help to explain some of the extreme variation in nature of capitulescence and possibly supply clues to what is advanced or primitive within the genus. Presently, little is known concerning types of pollinators that frequent Mikania. (The exact method of analysis of this relationship is best postponed until actual data is collected).

Knowledge of useful and indigenous species

In most works concerning the genus, including floristic manuals, local knowledge of the plants is often glossed over or very superficially presented. A revision, as planned, is much enhanced by inclusion of as much ethnobotanical information as possible, thereby increasing the value of the work to other disciplines. This appears especially important in Mikania because of the wide variety of local names and medicinal uses. Nearly 100 common names have been applied to various members of the Mikania scandens complex (Holmes, 1975), a group composed of 22 species. In the same work, about a dozen medicinal uses are cited. Interestingly, one species, M. micrantha, is used in Central America, South America, Asia, and the Pacific-Indonesian region against snake and insect bites. Numerous other names and uses are expected to be encountered in continued studies in the genus.

State of the Work

The investigator has been studying the genus for the past eight years. During this period thousands of herbarium specimens from many of the world's herbaria have been examined. Three field trips to the American tropics were undertaken for observation and study. These have provided the investigator with an excellent insight and overall perspective of the genus. Until recently, emphasis has been placed on the Mikania of Peru (Holmes and McDaniel, 1981). The results of studies have been published in a series of short papers (Holmes and McDaniel 1975, 1976, 1977a, 1977b, 1979, 1980), with several others in preparation. A treatment of the Mikania of the United States has recently been accepted for publication. Throughout these studies, emphasis has been placed on a worldwide treatment aimed at producing a total monograph. To date, treatments of over 140 species have completed.

PROJECTED RESEARCH

Need for publication

The entire point and product is to produce a published monograph of the genus. This will be accomplished in two ways. First, a continued effort to publish the results of the study in a series of short papers. These will consist of proposals of new species, name and status changes, clarification of synonymy, and new distribution records. Funds are being requested for the publication of about 100 pages, including illustrations. Second, synthesis of the completed work, which is intended to be published as a book. Other possible sites of publication being investigated are Flora Neotropica and Systematic Botany Monographs.

Need for field work

Most herbarium specimens of Mikania include only the terminal portion of the stem and normally consist of the capitulescence and several cauline leaves. Field work is necessary for the collection of materials not normally found on herbarium specimens. These include roots, lower stems, wood samples of woody or shrubby species, viable seeds for greenhouse studies, and materials for chromosome counts. Studies possible only in the field are pollinator-capitulescence interactions and other ecological observations.

Included in the travel budget is money for travel to several European herbaria for studies. This is necessary to study the types at the

Geneva de Candolle collection that are not available on loan. Also, because of the large number of specimens and cost of transoceanic shipment, the Royal Botanic Gardens (K) suggested a personal visit to select only the specimens needed for a careful, long term study (pers. comm.). Kew houses the types of Gardner and of Baker. Other European herbaria, more convenient to visit for selection of specimens, include Paris (P) and Stockholm (S), which houses most of the types of Malme and of Dusén.

During field studies in South America, visits are planned to the National Botanical Museum (R) and the Botanic Gardens (RB), both in Rio de Janeiro, and herbarium at La Plata (LP), Argentina. Other selected herbaria, such as Leiden (L) and Munchen (M), may be visited, if the need arises.

FACILITIES

Northwestern State University

Northwestern State University has a large and modern biological sciences building that is well equipped for all types of botanical research. The herbarium and adjacent work areas consist of over 2000 square feet and possesses facilities for storage and work on the large number of herbarium specimens necessary for a work of this nature. Additional space is available if needed. The University also has a modern library with adequate holdings in the botanical sciences, including a good selection of taxonomic botanical journals. On line searches should be available in early 1982. The investigator's personal library contains all reference materials needed for the study not found in the University library. Full use of two other libraries is also available (Institute for Botanical Exploration, Mississippi State, Mississippi and the Mississippi State University).

Institute for Botanical Exploration

The investigator has full use of the Institute for Botanical Exploration Field Station in Iquitos, Peru. The station is probably one of the best equipped in the Amazon Basin. It has facilities for collecting, preservation, and shipment of any type of botanical materials. This will be used as a base of operations for the South American field studies.

CONCLUSION

It is believed that knowledge of *Mikania* is in its initial state and much more information is needed concerning the number of species, their distribution, ecology, evolution, relationships, and chromosome numbers. Now is the time to survey the genus while large tracts of natural areas still exist in the American tropics for field investigations and adequate numbers of specimens are available from herbaria for study.

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Phytologia 33:1-3.
- _____. 1977a. Notes on Mikania (Compositae)-III.
Phytologia 35:329-331.
- _____. 1977b. Notes on Mikania (Compositae)-IV.
Phytologia 37:467-475.
- _____. 1979. Notes on Mikania (Compositae)-V.
Phytologia 41:183-197.
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EXPLANATION OF BUDGET

A. Salary and wages:

Release time and summer salary for investigator for two years. The investigator is three-fourths teaching and one-fourth research. Release time will allow one-half time research.

C. Fringe benefits:

Fringe benefits are in line with NSF guidelines and includes employer contribution to FICA, state unemployment, worker's compensation insurance, etc.

D. Equipment:

One Apple II Plus microcomputer with two disc drives, video monitor, software, and printer. Investigator does not have access to the University computer, nor, if access was possible, are facilities available to handle the large number of herbarium specimens needed for the study. This system would be invaluable in writing descriptions, keys, specimen descriptions, literature citations, preparation of distribution maps, and storage and retrieval of data. This system alone would save an estimated \$5000.00 for typing (2000 pages at \$2.50/page for technical typing), not counting retyping of revisions, changes, etc. The investigator is very familiar with the Apple II systems, having leased one at his own expense for six months.

E. Expendible equipment and supplies:

Field equipment, preservation materials, art supplies for illustrations (which the investigator does personally), computer disks, paper, etc.

G. Foreign travel:

Two trips, each of about 40 days duration for field studies in Central and South America. One trip of about 2-3 weeks for study of specimens in

major European herbaria, which includes selection of specimens for loans for long term study. All travel includes transportation and per diem. No special request is being made for rental of a field facility.

H. Publication costs:

Preliminary publication to validate names, etc., estimated at about 100 pages at \$40.00/page.

L. All other direct costs:

Shipment of specimens, both collected and return of loans.

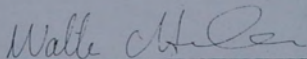
ORGANIZATION AND ADDRESS		FOR NSF USE ONLY			
Department of Biological Sciences, Northwestern State Univ., Natchitoches, LA 71457		PROPOSAL NO.			
PRINCIPAL INVESTIGATOR/PROJECT DIRECTOR Walter C. Holmes		DURATION (MONTHS)			
		PROPOSED	REVISED		
NSF USE	A. SENIOR PERSONNEL (LIST BY NAME; SHOW NUMBERS OF PEOPLE IN BRACKETS; SALARY AMOUNTS MAY BE LISTED IN SEPARATE SCHEDULE) GPM 205.10		NSF FUNDED MAN MONTHS	FUNDS REQUESTED BY PROPOSER	FUNDS GRANTED BY NSF (IF DIFFERENT)
	1. P.I./P.D.	6	\$ 12161	\$	
	2. CO P.I./P.D.		\$	\$	
	3. CO P.I./P.D.		\$	\$	
	4. CO P.I./P.D.		\$	\$	
	5. CO P.I./P.D.		\$	\$	
	11115 6. () SUBTOTALS A1 - A5	6	\$ 12161	\$	
	FACULTY AND OTHER SENIOR ASSOCIATES (ATTACH EXTRA SHEET IF NECESSARY)				
	7.		\$	\$	
	8.		\$	\$	
	9.		\$	\$	
	10.		\$	\$	
11.		\$	\$		
11117 12. () SUBTOTALS A7 - A11		\$	\$		
B. OTHER PERSONNEL (LIST NUMBERS IN BRACKETS)					
11141 1. () POSTDOCTORAL ASSOCIATES		\$	\$		
11149 2. () OTHER PROFESSIONALS		\$	\$		
11150 3. () GRADUATE STUDENTS		\$	\$		
11152 4. () UNDERGRADUATE STUDENTS		\$	\$		
11182 5. () SECRETARIAL - CLERICAL		\$	\$		
11183 6. () TECHNICAL, SHOP, OTHER		\$	\$		
TOTAL SALARIES AND WAGES (A+B)			\$ 12161	\$	
11200 C. FRINGE BENEFITS (IF CHARGED AS DIRECT COSTS)		\$ 1581	\$		
TOTAL SALARIES, WAGES AND FRINGE BENEFITS (A+B+C)			\$ 13742	\$	
D. EQUIPMENT (LIST ITEMS AND DOLLAR AMOUNTS FOR EACH ITEM)					
1 Apple II Plus Microcomputer --\$1650					
2 Apple Disk Drives with interface --\$1450					
1 BMC KC-120 Video Monitor --\$350					
1 Paper Tiger IDS 560 Printer --\$1700					
Interfaces, Cables, software (word processing, filing, etc.) --\$350					
23181 TOTAL EQUIPMENT		\$ 5500	\$		
E. MATERIALS AND SUPPLIES					
32630		\$ 300	\$		
F. DOMESTIC TRAVEL					
42111		\$	\$		
G. FOREIGN TRAVEL (LIST DESTINATION AND AMOUNT FOR EACH TRIP; GPM 731)					
US-Central America--\$500					
Per Diem --\$1000					
Internal Travel \$400					
Rentals, workers, etc. --\$500					
42112		\$ 2400	\$		

ORGANIZATION AND ADDRESS		FOR NSF USE ONLY	
Department of Biological Sciences, Northwestern State Univ., Natchitoches, LA 71457		PROPOSAL NO.	
PRINCIPAL INVESTIGATOR/PROJECT DIRECTOR		DURATION (MONTHS)	
Walter C. Holmes		PROPOSED	REVISED
A. SENIOR PERSONNEL (LIST BY NAME; SHOW NUMBERS OF PEOPLE IN BRACKETS; SALARY AMOUNTS MAY BE LISTED IN SEPARATE SCHEDULE) GPM 205.1b		NSF FUNDED MAN MONTHS	FUNDS REQUESTED BY PROPOSER
1. P.I./P.D.		6	\$ 13377
2. CO. P.I./P.D.			\$
3. CO. P.I./P.D.			\$
4. CO. P.I./P.D.			\$
5. CO. P.I./P.D.			\$
6. () SUBTOTALS A1 - A5		6	\$ 13377
FACULTY AND OTHER SENIOR ASSOCIATES (ATTACH EXTRA SHEET IF NECESSARY)			
7.			\$
8.			\$
9.			\$
10.			\$
11.			\$
12. () SUBTOTALS A7 - A11			\$
B. OTHER PERSONNEL (LIST NUMBERS IN BRACKETS)			
11141 1. () POSTDOCTORAL ASSOCIATES			\$
11149 2. () OTHER PROFESSIONALS			\$
11150 3. () GRADUATE STUDENTS			\$
11152 4. () UNDERGRADUATE STUDENTS			\$
11182 5. () SECRETARIAL - CLERICAL			\$
11183 6. () TECHNICAL, SHOP, OTHER			\$
TOTAL SALARIES AND WAGES (A+B)			\$ 13377
11200 C. FRINGE BENEFITS (IF CHARGED AS DIRECT COSTS)			\$ 1739
TOTAL SALARIES, WAGES AND FRINGE BENEFITS (A+B+C)			\$ 15116
D. EQUIPMENT (LIST ITEMS AND DOLLAR AMOUNTS FOR EACH ITEM)			
23181 TOTAL EQUIPMENT			\$
E. MATERIALS AND SUPPLIES			
32630			\$
F. DOMESTIC TRAVEL			
42111			\$
G. FOREIGN TRAVEL (LIST DESTINATION AND AMOUNT FOR EACH TRIP; GPM 731)			
US-South America (Brasil, Peru, Polivia, etc.)-\$1300			
US-Europe (Geneva, London, etc.)-\$1600			
Per Diem --\$2500			
Internal Travel -- \$500			
Rentals, workers, etc.--\$1000			
42112			\$ 7400

ADMINISTRATIVE INFORMATION

This research proposal has not been submitted to any other agency.

Further information relating to the technical portion of the proposal may be obtained from Walter C. Holmes, Associate Professor of Biological Sciences and Curator of the Herbarium, Northwestern State University, Natchitoches, Louisiana, 71457. Telephone (318) 357-4485.



Walter C. Holmes

Principal Investigator

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I certify that the distribution of costs between the direct and indirect categories as shown in the proposal conforms to the usual accounting practices of the University for all Federally supported or sponsored research.

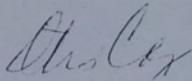


Table 1

Number of Species of Mikania

<u>South America</u>	<u>Endemics</u>	<u>Total</u>	<u>References</u>
Brasil	140	170	Baker (1876); Barroso (1958) King & Robinson (1980)
Argentina	4	20	Cabrera & Vittet (1954)
Chile	1	1	Holmes (1975)
Bolivia	28	38	Foster (1958)
Paraguay	5*	20*	Barroso (1958); Cabrera & Vittet (1954)
Uruguay	?	10*	Barroso (1958); Cabrera & Vittet (1954)
Peru	50	76	Holmes & McDaniel (1981)
Ecuador	18	27	B.L. Robinson (1922, 1923, 1924, 1926, 1928, 1931, 1932, 1934); Blake (1938)
Colombia	26	42	B.L. Robinson (l.c.); Cuatrecasas (1935)
Venezuela	14	33	Aristeguieta (1964); King & Robinson (1974)
French Guiana	0	10	Lemee & Lechevalier (1953)
Guyana	2	10*	Barroso (1958); King & Robinson (1974); Lemee & Lechevalier (1953); B.L. Robinson (1924); Aristeguieta (1964)
Surinam	0	10*	" " " "
<u>North America</u>			
United States	0	3	Holmes (1981)
Mexico	0	13	Nash & Williams (1976); B.L. Robinson (1896)
Guatemala/Belize	2	11	Nash & Williams (l.c.)
Honduras	1	7	Clewell (1975)
El Salvador	0	7*	Nash & Williams (l.c.); Clewell (l.c.); King & Robinson (1975)
Nicaragua	0	6*	King & Robinson (1975); Clewell (1975)
Costa Rica	1	17	B.L. Robinson (1904); King & Robinson (1974, 1975)
Panama	3	16	King & Robinson (1975); Holmes & McDaniel (1976, 1979)

<u>Antilles</u>	<u>Endemics</u>	<u>Total</u>	<u>References</u>
Cuba	7	11	Alain (1963); Holmes (1975)
Jamaica	6	9	Adams (1972)
Hispanola	10	14	Moscoso (1943)
Puerto Rico	5	7	Britton & Wilson (1925)
Bahamas/Lesser Antilles	1	7	Grisebach (1864)

Old World

Asia/Pacific Area	1	2	Holmes (1975)
Africa	6	7	Holmes (1975)

Total	329	66**	
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Total Species	396 with claim to validity
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* Estimate

** Figure obtained by actual count of species that occur in more than one country. Synonyms are not included in either figure.

CURRICULUM VITAE - WALTER C. HOLMES

Born	1944 in New Orleans, Louisiana
Education	Louisiana Tech University, Ruston, Louisiana, B.S. in 1967 Mississippi State University, Mississippi State, Mississippi, Ph.D. in 1975.
Employment	Graduate Assistant, Department of Botany, Mississippi State, Mississippi, 1972-75 Associate Professor of Biology, Northwestern State University, Natchitoches, Louisiana, 1975-present
Membership in Professional Societies	American Association for Advancement of Science American Society of Plant Taxonomists International Association of Plant Taxonomists Louisiana Academy of Sciences Southern Appalachian Botanical Club

Publications

- 1975 Notes on Mikania (Compositae). Phytologia 31:273-278
(with S. McDaniel)
- 1976 Notes on Mikania (Compositae)-II. Phytologia 33:1-3
(with S. McDaniel)
- 1977 Notes on Mikania (Compositae)-III. Phytologia 35:329-331
(with S. McDaniel)
- Notes on Mikania (Compositae)-IV. Phytologia 37:467-475
(with S. McDaniel)
- Range Extension for Ottelia alismoides (L.) Pers.
(Hydrocharitaceae). Castanea 43:193-194.
- 1978 Lycopodium cernuum in Louisiana. Am. Fern. Journ. 68:96
(with R. Thomas, C. Allen, & G. Landry)
- 1979 Notes on Mikania (Compositae)-V. Phytologia 41:183-197
(with S. McDaniel)
- 1980 Notes on Mikania (Compositae)-VI. Phytologia 45:297-300
(with S. McDaniel)
- Notes on the Distribution of Two Louisiana Orchids.
Castanea 45:72 (with P. Mathies)

- 1980 Three Additions to the Vascular Flora of Louisiana.
Castanea 45:139-141 (with J. Bruza & C. Wells)
- The Distribution of Habranthus tubispathus (L'Her.) Traub
in South America and North America-Texas and Louisiana.
Sida 8:328-333. (with C. Wells)
- 1981 Mikania in Flora of Peru. Fieldiana, Botany (in press)
(with S. McDaniel)
- Mikania of the United States. Sida 9: 147-158.
- Cleome viscosa-New to Louisiana. Sida 9: 187.

CURRENT AND PENDING SUPPORT

1. Walter C. Holmes

A. Current Support -- none

B. Proposals Pending

1. Monograph of Mikania (Compositae-Eupatorieae)

- a. NSF
- b. see 1 above
- c. 61411
- d. 1982-1984
- e. 6 months per year
- f. as stated in proposal

2. Analysis of non-flowing wetlands in the lignite areas of Louisiana.

- a. Louisiana State Board of Regents
- b. see 2 above
- c. 33196
- d. 1982-1983
- e. 2 months
- f. lignite areas of Louisiana and Northwestern State University

3. Planned Proposals -- none

II. Co-principal Investigator -- none

III. Transfer of Support -- not applicable

IV. Other agencies to which this proposal has been/will be submitted--none

In German

Dr. Otto Huber
Apartado 80405
Caracas 1080-A
VENEZUELA

Dear Dr. Huber:

By way of introduction, I am the Director of the Biochemical Institute of the Technical University here in West Berlin. The major thrust of this institute is my project, namely the Biochemistry and Taxonomy of the Compositae of the World. To this end I have been working with my collaborator, Dr. Robert M. King of the Smithsonian Institution in Washington, D. C. Dr. King has concerned himself with the taxonomy and collection of material for analysis by my laboratory. So far we have analysed material from Europe, Asia, Africa, North America and South America. Our plans even include collecting in Australia. We are trying to obtain as broad a sampling as possible. The Compositae is a vast family as I am sure you know. Of all the taxonomic groups within the family, the Mutisieae tribe is without doubt the poorest known biochemically. It is for this reason that I address this letter to you. Dr. King tells me that the Cerro de la Neblina in Venezuela probably contains the highest number of endemic Mutisian genera and species in the world. He also tells me that there is an international expedition planned for the Cerro de la Neblina later this year and next.

My request to you is simple. Would you please do what you can to enable Dr. King and his colleague Dr. Earl Bishop to participate in this expedition and collect for me the necessary samples.

F. Bohlmann

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A version of this same letter should be sent in English to the following:

Dr. Charles Brewer-Carias
Fundacion para el Desarrollo de las Ciencias Fisicas, Matematicas y Naturales
Edif. Inanca -Mezz. 2
Apartado No 1998
Caracas 1010-A VENEZUELA

CURRICULUM VITAE

Family name: HUBER

First name: Otto

Place of birth: Bischofswiesen (W-Germany)

Date of birth: 24 november 1944

Present nationality: italian

Marital status: married with Maria WALZL, without children

EDUCATION

Ground school from 1948 to 1958, at "Staatliche Volksschule",
Merano (Italy)

High school from 1958 to 1963, at "Beda Weber" Gymnasium-Lyze-
um, Merano (Italy); Bachellor's degree in July 1963

University from 1963 to 1971, at State University of Rome (Italy),
Faculty of Sciences; MS in Biology (Botany and Ecology)
with "Summa cum Laude" in november 1971

Postgraduate studies from 1973 to 1976, at State University of
Innsbruck (Austria), including field work in Venezuela du-
ring 1974-76; PhD in Botany and Geography with "Summa cum
laude" in July 1976.

EMPLOYMENT RECORD

Present post:

Botanist-plant ecologist with the Ministerio del Ambiente y de
los Recursos Naturales Renovables (Ministry of Environ =
ment) of Venezuela, since October 1976; present salary:
approx. 14,400 US \$/year;
description of the post: botanical and ecological inventory
of the savanna vegetation in the Territorio Federal Amazo-
nas (S-Venezuela); field studies on soil-water-plant rela-

lationships in some savanna types. Intensive field work and collection of approx. 6,000 specimens for systematic herbarium studies. Elaboration of a vegetation map (scale 1:500,000), combining field data and Radar- and LANDSAT-imagery. Interdisciplinary field research carried out under my coordination and supervision.

Previous posts:

Botanist-plant ecologist with the Sociedad Venezolana de Ciencias naturales (Venezuelan Natural Science Society), from January 1974 to January 1976;

description of the post: botanical and ecological field research in the cloud forests of Parque Nacional "Henri Pittier" (N-Venezuela). Studies on the structure and botanical composition of the different forest types, phenology, plant-ecophysiology. (Field research for PhD-thesis).

Botanist with the Instituto Italo-Latino Americano (Rome, Italy), from February 1971 to September 1973;

description of the post: elaboration of a detailed, multilingual bibliography on plant ecology and phytogeography of neotropical savannas. Intensive bibliographical research in Europe and South American Institutions. Field observations in Venezuela, Colombia, Perú, Bolivia, Argentine, Paraguay and Brazil.

Botanist-plant ecologist with the Sociedad Venezolana de Ciencias Naturales, Caracas, from August 1967 to August 1968;

description of the post: field research on the savanna vegetation of the venezuelan central Llanos. Microclimatological studies in different savanna- and forest-types; phenology. (Field work for MS-thesis).

MEMBERSHIP IN PROFESSIONAL SOCIETIES

- Association for Tropical Biology (ATB), Washington DC.
- International Association of Plant Taxonomists (IAPT), Utrecht
- International Society for Tropical Ecology (ISTE), Varanasi, India
- Deutsche Botanische Gesellschaft, Göttingen
- Gesellschaft für Ökologie, Göttingen
- Sociedad Venezolana de Ciencias Naturales, Caracas
- Società Italiana di Fitosociologia, Roma.

LANGUAGES

- German (mother-tongue): excellent
- Italian: excellent
- Spanish: good
- English: good
- Portuguese: fair
- Dutch: easily understandable
- French: not easily understandable.

SIGNIFICANT PUBLICATIONS

La radiación solar y las estaciones anuales de los Llanos de Venezuela.- Bol. Soc. Ven. Cienc. Nat., 29 (119/120): 50-135, 1971 (Junior author with V. Vareschi).

L'America meridionale e centrale: Flora e vegetazione.- in: Enciclopedia della Natura, Vol. 7: col. 69-184. Gherardo Casini Editore, Bologna (Italy), 1974.

The neotropical savannas. Select bibliography on their plant ecology and phytogeography.- xlii + 855 pagg., Istituto Italo - Latino Americano, Roma (Italy), 1974.

Observaciones climatológicas sobre la región del Auyan-tepui
(Edo. Bolívar).- Bol. Soc. Ven. Cienc. Nat., 32 (132/133):
509-525, 1976.

Pflanzenökologische Untersuchungen im Gebirgsnebelwald von Ran-
cho Grande (Venezolanische Küstenkordillere).- PhD-thesis,
Universität Innsbruck (Austria), viii + 127 pagg., 1976.

Flora del Avila.- 971 pagg., Soc. Ven. Cienc. Nat., Caracas,
1978 (Junior author with J.A.Steyermark).

Light compensation point of vascular plants of a tropical cloud
forest and an ecological interpretation.- Photosynthetica,
12 (4): 382-390, Prague, 1978.

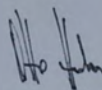
The ecological and phytogeographical significance of the present
savanna vegetation in the Amazon Territory of Venezuela.-
Proceedings of the V.th International Symposium of the
Association for Tropical Biology, Macuto, 1979 (in press).

OTHERS

=====

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Winner of the grant "A.F.W. Schimper - Stipendium" of the
"Heinrich und Erna Walter" - Foundation, Stuttgart (W-Ger-
many) for the years 1974 and 1978.



Dr. Otto Huber

Dr. Otto HUBER
Apartado 80.405
CARACAS 1080-A
Venezuela

Caracas, 29 August 1980.

June 19, 1981

Dr King -

Since I said I would do the
B Museum illustrations, I will keep
my word. Their highest figure, £37,
is much too low for that kind of work,
but as I said, I promised. My legal
counselor says it should be in
writing.*

Regina Hughes

* apparently Morris has no
faith in Perfidious Albion!

June 2nd, 1982

Dr. Chris J. Humphries
Department of Botany
British Museum (Nat. Hist.)
London, SW 75BD 01-589-6323
England

Dear Dr. Humphries:

Thank you for the Guide for Authors for Flora Mesoamericana.
The year 1993 seems like a reasonable time to get the typescript
done.

I would request that you write to Dr. Harold Robinson here at the
Smithsonian. I believe that he would be willing to contribute the
tribe Liabeae for you.

Very sincerely,

Digitized by Hunt Institute for Botanical Documentation

Robert M. Kå
Department of Botany

Sender's name and address

BRITISH MUSEUM (NATURAL HISTORY)

CROMWELL ROAD,

LONDON, SW7 5BD

Dr. C.J. Humphries - Botany

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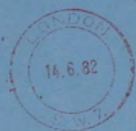
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By air mail Air letter
Par avion Aerogramme

ON HER BRITANNIC MAJESTY'S SERVICE



Dr. R.M. King

Department of Botany

National Museum of Natural History

Smithsonian Institution

Washington, D.C. 20560

USA

To slit here

To open slit here



BRITISH MUSEUM (NATURAL HISTORY)

Cromwell Road,

London, SW7 5BD.

Telegrams: NATHISMUS, LONDON, S.W.7.

Telephone: National 01-589 6323 ext. 254
International +44 1 5896323

Dr. R.M. King
Department of Botany
National Museum of Natural History
Smithsonian Institution
Washington, D.C. 20560

GJH/DMS
14.6.1982

Dear Dr. King,

Thank you for your letter of June 2nd 1982. I am really grateful that you agreed to write up the Eupatorieae for Flora Mesoamericana.

I acknowledge your comments about Dr. Harold Robinson and I have written to him separately. Once again, thank you. I look forward to hearing from you.

Yours sincerely,

C.J. Humphries

Digitized by Hunt Institute for Botanical Documentation

357-2546

December 18^o, 1984

Dr. Juan H. Hunziker, Director
Herbario, Instituto de Botanica Darwinion
Labarden 200, 1640 Martínez
San Isidro, Buenos Aires, Argentina

Dear Dr. Hunziker:

I am planning to be in Argentina for the month of January 1985. My reason for the trip is to study and collect Compositae. I have already written to Dr. Cabrera about my plans.

Would it be possible for me to work and study in your museum? In addition, I would also like to collect material of Compositae. In that regard, would it be possible to have the use of a car from your museum?

Thank you in advance and please give Dr. Cabrera my best regards.

Robert M. King
Sincerely,

Robert M. King
Department of Botany

June 2nd, 1982

Dr. Eugene E. Hutton
P. O. Box 1305
Elkins, West Virginia 26241

Dear Dr. Hutton:

I want to thank you again for all your help this last weekend. I very much enjoyed my trip to Elkins. Our trip back to Washington was much faster.

I have planted the Marshallia plants and they are doing nicely on my window sill.

The material of Krigia has been sent off for analysis. I will keep you informed of the results.

Enclosed are reprints on material that you were kind to send me.

Under separate cover, I have sent you some vials of cytological fixative for the Marshallia.

I include below a list of species that would be of interest for chemical study. If you are able to collect any of these, I would need about a bag full plus a voucher herbarium specimen for the U. S. National Herbarium.

Elephantopus carolinianus
Eupatorium serotinum
Liatris scariosa
Pluchea camphorata
Silphium connatum
Silphium compositum
Parthenium integrifolium
Heliopsis helianthoides
Coreopsis tinctoria
Coreopsis grandiflora
Cacalia suaveolens

Vernonia glauca
Eupatorium incarnatum
Liatris aspera
Silphium perfoliatum
Silphium trifolium
Chrysognum virginianum
Parthenium hispidum
Heliopsis scabra
Coreopsis lanceolata
Helenium flexuosum
Cacalia atriplicifolia

Dr. E. E. Hutton
June 2nd, 1982

-2-

Enclosed also are some labels for West Virginia for you to use.
Also some mailing franks for sending material to me.

Again, thanks for your help.

Very sincerely,

Robert M. King
Department of Botany

Enclosures

EUGENE E. HUTTON, Jr. M.D.

P. O. BOX ~~512~~ 1905

ELKINS, WEST VIRGINIA 26241

Hellerer. King: 27 June 1983

Enclosed in living plants
of Marshallia grandiflora
collected 26 June 1983. Along
Shaver Fork of Cheat, near
Cheat Bridge in flower
bud.

anytime you would
like to come out here
call me at 636-1598.

Sincerely,

E. E. Hutton Jr.

December 17, 1989

Dr. B. P. M. Hyland, Director
Herbarium, Queensland Regional Station
C.S.I.R.O.
Division of Forest Research
P. O. Box 273
Atherton
Queensland, Australia

Dear Dr. Hyland:

I am writing to inquire if you would know of someone that could collect viable seed of the Composite Pleurocarpaea denticulata Benth. The plant, I believe, grows in the Cook district and is near to your station. It should be in flower now.

I need the seed to grow for living material that is used for my chloroplast DNA studies in the Compositae.

Any help that you can give will be greatly appreciated.

Sincerely,

RL King
Robert M. King

Department of Botany

ACADEMIA NACIONAL DE CIENCIAS EXACTAS, FISICAS Y NATURALES
CONSEJO NACIONAL DE INVESTIGACIONES CIENTIFICAS Y TECNICAS
INSTITUTO DE BOTANICA DARWINION
LABARDEN 200 - CASILLA CORREO 22 - 1642 SAN ISIDRO
REPUBLICA ARGENTINA

San Isidro, December 27, 1984

Dr. Robert M. King
National Museum of Natural History
Smithsonian Institution
Washington, D.C. 20560
U.S.A.

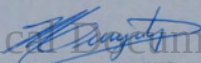
Dear Dr. King:

Today I received your letter of Dec. 10. We will be delighted to have you visiting our Institute for work and study in January.

Unfortunately our trips for collecting have already been planned and there is no room available in the only car that is at present in running condition.

Yours sincerely.

Digitized by Hunt Institute for Botanical Documentation


DR. JUAN H. HUNZIKER
DIRECTOR

JHH:gch

357-2545

March 4, 1981

Dr. Hugh H. Iltis
Herbarium
Department of Botany
The University of Wisconsin
Madison, Wisconsin 53706

Dear Hugh:

Please find enclosed some seed of Cleone that Earl Bishop and I collected for you on our recent trip to Brasil. We thought that you might like to do some biosystematic work on these species. I can give you localities later if you want them.

Hope that all is going well with you.

Sincerely,

Robert M. King
Department of Botany

Enclosure

May 27, 1982

Dr. Hugh H. Iltis
Herbarium, Dept. of Botany
The University of Wisconsin
Madison, Wisconsin 53706

Dear Hugh:

Under separate cover I have sent you the ear of corn that I collected in Peru. The locality is Peru: Ancash: Caraz. January 10, 1982.

You may send the duplicate Compositae from Mexico. Please remember duplicate.

Hope to see you in St. Louis.

Sincerely yours,

Digitized by Hunt Institute for Botanical Documentation

Robert M. King
Department of Botany



The Ohio State University

29 March 1982

Department of Botany

1735 Neil Avenue
Columbus, Ohio 43210
Phone 614 422-8952

Robert M. King
U.S. National Herbarium
Department of Botany
Smithsonian Institution
Washington, D.C. 20560

Dear Bob:

I wanted to write to thank you for sending me bud material of Spilanthes from Peru. Please excuse my long delay in letting you know that I received the buds in good condition. As you might have expected I have been very busy lately trying to finish Acmella and apply for jobs. In addition, I just returned from visiting friends with my wife in Arizona and California. Again, I apologize for the delay.

The buds that you sent are from Spilanthes leiocarpa, a species known primarily from Peru and extending into northern Chile. I have not counted the material yet but I will make some slides in the next several weeks. This species was recently reported by Dillon and Turner in their paper in Rhodora. I will let you know what number I get for your collection as soon as I can. If possible I would very much be interested in having a voucher specimen for your collection. I would be glad to send you something in exchange for your trouble.

Again, thanks for the bud collection. If I can ever be of assistance to you feel free to contact me.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Bob' or 'Robert'.

Robert K. Jansen
Graduate Teaching Associate

First fold here

First fold here

Sender's name and address

C. Jeffrey
Royal Botanic Gardens,

Kew, Richmond,

Surrey TW9 3AB

England.

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By air mail Air letter
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ON HER BRITANNIC MAJESTY'S SERVICE



R. M. King, Esq.,

Botany Dept.,

National Museum of Natural History
Smithsonian Institution

WASHINGTON D.C. 20560

U.S.A.

C.A.

Your reference:

Our reference:

ROYAL BOTANIC GARDENS
Kew, RICHMOND, Surrey, TW9 3AB, England
Telegrams: Kewgar, Richmond, Surrey
Telephone: 01-940 1171

22. 1. 1981

Dear Bob,

I wonder if I may trouble you with a request? If a computer print-out of the generic names of Compositae from I.N.G. is obtainable, I should be grateful if you could get one sent to me, or let me know whom to contact to obtain one. Having had a year on cucurbits, I am now returning to Compositae, mainly Senecioneae, but also beginning a listing of all generic names of Compositae; hence the I.N.G. thing would be most useful. Sorry the "Compositae Newsletter" is late, but I was off sick for the last two months of 1980; fortunately my health seems well on the mend now.

My best wishes to you and Harold Robinson for the

New Year.

Yours sincerely,

Charles
S

357-2545

March 10, 1981

Dr. C. Jeffrey
Royal Botanic Gardens
Kew, Richmond
England

Dear Charles:

Thanks for your letter but, please, forgive me in being so tardy in answering it. I have just recently returned from a collecting trip in Brasil.

I mentioned to Dr. Dieter Wasshausen your request for a print out of the genera of the Compositae. He suggested that it would cost about \$100.00 to have it run off.

If you still want a copy, you should write to either Dr. Wasshausen or to Mrs. Ellen Farr and they can tell you the exact cost.

Glad to learn that your health has improved. I still plan to be in England sometime in April.

Sincerely,

Robert M. King
Department of Botany

357-2545

March 5, 1982

Mr. Charles Jeffrey
The Herbarium
Royal Botanic Gardens
Kew, Richmond
Surrey TW9 3AE
England

Dear Charles:

Thanks for your letter and the list of names. I am eagerly looking forward to seeing the specimens when they arrive. The ones that you did not name should be especially interesting.

On another matter, would you be interested in receiving a set of my compositae collections from Peru? They should be ready to send out in ca two years. Could you tell me how long it usually takes for specimens to be mounted and inserted in the herbarium? On my last trip to Kew in 1981, I noted that apparently very few of my collections were in the herbarium. Any information on this will be appreciated.

Sincerely yours,

Robert M. King
Department of Botany

To open slit here

To open at fold here

Sender's name and address

C Jeffrey

Royal Botanic Gardens,

Kew, Richmond,

Surrey TW9 3AB

England.

An air letter should not contain any enclosure

The 'APSLEY' Air Letter

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By air mail Air letter
Par avion Aerogramme

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Be properly
addressed
POSTCODE IT

Mr Robert M King

Department of Botany

National Museum of Natural History

Smithsonian Institution

Washington DC 20560

U S A

Digitized by Hunt Institute for Botanical Documentation

Your reference:

Our reference:

ROYAL BOTANIC GARDENS
Kew, RICHMOND, Surrey, TW9 3AB, England
Telegrams: Kewgar, Richmond, Surrey
Telephone: 01-940 1171

Mr Robert M King
Department of Botany
National Museum of Natural History
Smithsonian Institution
Washington DC 20560
U S A

11 March 1982

Dear Bob

Thank you for your letter of 5 March. I hope you will soon receive the specimens safely; I should be very interested to get names for the indeterminatae.

Thank you for your kind offer of a set of Peruvian Compositae. We should be very pleased to receive these. With regard to your query about length of time between specimen reception and laying-in to the herbarium, it is necessary to point out that the time has been unduly long in recent years owing to staff shortages. With the appointment last December of a new, competent Assistant Scientific Officer, much of the backlog has now been dealt with and I should reckon, that in the future, all material will have been inserted at most by six months after receipt. This assumes, of course, that we shall escape further staff cuts!

Yours sincerely

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C Jeffrey

357-2545

August 19, 1982

Mr. Charles Jeffrey
Herbarium, Royal Botanic Gardens
Kew, Richmond, Surrey TW9 3AE
England

Dear Mr. Jeffrey:

Enclosed please find photographs of the following botanists:

E. Kaun, A. P. Decandolle, N. Harriman, R. Jansen, O. Huber,
D. Kaun, J. Steyermark, C. Jeffrey, L. E. Bishop, S. Mori,
O. Tovar, D. Keil, C. Nesom, D. Rindos, S. McDaniel, E.
Schilling, B. Nordenstam, V. Badillo.

I hope that this series will be a welcome addition to your
collections.

Sincerely,

Robert M. King
Department of Botany

RMK:cap

Encls.



R. P. King, Esq
Department of Botany
National Museum of Natural History,
Smithsonian Institution
Washington DC, 20560

Dear Dr King,

13. 3. 89

Please see the enclosed preliminary announcement of the 1994 Kew International Compositae Conference (KWICC). I do hope you will be able to participate in the Conference and any collaboration you can give will be highly valued. I enclose also a list of a number of options, one or more of which may appeal to you. Any other comments or suggestions would of course be welcome.

The proposed "Genera Compositarum" I should like to be planned as an international venture from the start. Some kind of secretariat will need to be established. The concept of the database and the way in which such large-scale taxonomic data-management can best be carried out need to be discussed and data-type priorities agreed. Input is needed both from those with experience in taxonomic data management and from those with expertise in Compositae systematics; the Taxonomic Database Working Group should also be involved. With respect to hard copy, the data types needed might be nomenclatural (complete), descriptive (morphological, anatomical, cytological, chemical - DELTA format?), ecogeographical (summary only), ethnoeconomic (summary only) and bibliographic (references to currently useful revisionary accounts). Complete bibliography could of course be retained in the database. Possible extras include keys to genera, distribution maps, and illustrations. Information input, including the porting of any relevant information from other existing databases, needs also to be considered.

Yours sincerely

C Jeffrey

May 29, 1980

Dr. Robert M. King
Smithsonian Institution
Washington, D. C.

Dear Dr. King:

Some more Compositae for identification. There are
a prior package whose identification has not been reported. I am
wondering whether the package did not arrive in the Smithsonian or
your answer to it was lost in the mail.

Yo can keep the specimen for the Herbarium.

Best thanks. Most sincerely yours

Jose de J. Jimenez

357-2545

19 de junio de 1981

Dr. Jose de J. S. Jimenez A.
Calle Maximo Gomez 34
Santiago de los Caballeros,
Republica Dominicana

Estimado doctor Jimenez:

Le pido disculpe la larga espera en identificar sus
muestras, pero las mismas se habian extraviado.

Los nombres son como sigue:

- 8790 - Conyza bonariensis (L.) Cronq.
- 8789 - Conyza bonariensis (L.) Cronq.
- 8816 - Conyza bonariensis (L.) Cronq.
- 8819 - Chaptalia nutans (L.) Polak.
- 8183 - Gynura aurantiaca (Blume) DC.
- 8794 - Gynura aurantiaca (Blume) DC.

Sin otro particular, quedo

Sinceramente,

Robert M. King
Departamento de Botanica

357-2545

January 28, 1982

Dr. Jose de J. S. Jimenez
Calle Maximo Gomez 34
Santiago de los Caballeros
Republica Dominicana

Dear Dr. Jimenez:

Your specimen # 9075 arrived here while I was in Peru. I believe that the collection is possibly a mixture. The smaller plant is probably *Chaptalia dentata* (L.) Cass. The larger plant is best called *Chaptalia* sp. at this time.

I hope that you had a Merry Christmas.

Sincerely yours,

Robert M. King
Department of Botany

June 18, 1987

Dra. Lorena San Roman Johanning, Directora General
Museo Nacional de Costa Rica
Apartado 749-1000
San Jose, Costa Rica

Dear Dra. Johanning:

I want to thank you very much for allowing me to visit and study in your museum. I had not visited the museum for about ten years and I did notice the many changes that you have made.

I am hoping to return to Costa Rica soon as it is always so nice to visit. Again, thanks so much for your help while I was visiting.

Sincerely,

Robert M. King
Robert M. King

Department of Botany

357-2545

March 27, 1981

Dr. Bob Johnson,
Director
Department of Botany
Dept. of Primary Industries
Meiers Road
Indooroopilly, Brisbane, 4068
Queensland, Australia

Dear Dr. Johnson:

Mrs. Nell Stevens, of the Botany Department, University of Queensland, has suggested that I write to you regarding my forthcoming trip to Australia.

I plan to attend the International Botanical Congress in Sydney in late August. I would like to visit Brisbane about ten days prior to the Congress and make collections of Compositae. My interest is with only the endemic genera and species. I would like to make some biochemical and cytological studies of them.

My request is this: Do you have facilities that I could use to dry plants? Would there be anyone (perhaps a graduate student) that could help with localities for Compositae? Any help that you can give will be appreciated.

Very sincerely,

Robert M. King
Department of Botany

AEROGRAMME

BY AIR MAIL

PAR AVION

IF NOT CLAIMED
PLEASE RETURN TO
DEPARTMENT OF
PRIMARY INDUSTRIES
Meiers Road,
Indooroopilly,
Q. 4068.



MR. R.M. KING, DEPARTMENT OF BOTANY,

NATIONAL MUSEUM OF NATURAL HISTORY,

SMITHSONIAN INSTITUTE,

WASHINGTON DC 20560,

U.S.A.

COUNTRY OF DESTINATION

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SENDER'S NAME AND ADDRESS

Queensland Herbarium,
Department of Primary Industries
G.P.O. Box 46 Meiers Road,
Brisbane, Indooroopilly,
Queensland
Australia 4001 4068

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FIRST FOLD HERE

TO OPEN SLIT HERE FIRST



Department of Primary Industries

~~XXXXXXXXXX~~

~~BRISBANE XXXXXX~~

Telephone: 224 0414

Telegraphic Address:

"Agriculture"

Telex No.: 41620

In any further correspondence
refer to No.

Queensland Herbarium,
Meiers Road,
INDOOROOPILLY. 4068
AUSTRALIA.

7th April, 1981

Mr. R.M. King,
Dept. of Botany,
National Museum of
Natural History,
Smithsonian Institute,
WASHINGTON DC 20560,
U.S.A.

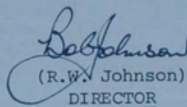
Dear Robert,

I received your letter of 27th March regarding your visit to
Queensland prior to the International Botanical Congress.

We will be pleased to assist you while you are in Brisbane and
you can have use of our drying facilities. There may be some pressure at
that time on our limited capacity to handle the drying of specimens but I
am sure we will be able to cope. We can also give you advise on suitable
collecting localities.

We look forward to your visit.

Yours sincerely,


(R.W. Johnson)
DIRECTOR

357-2545

June 17, 1981

Dr. R. W. Johnson, Director
Department of Plant Industries
Queensland Herbarium
Meiers Road
Indooroopilly 4068
Australia

Dear Dr. Johnson:

I am writing to inform you that my plans have changed. I will no longer be visiting Brisbane and will not need the use of your herbarium. I hope to visit your area and meet you on another trip.

Sincerely,

Robert M. King
Department of Botany

May 19, 1986

Dr. R. W. Johnson, Director
Queensland Herbarium
Meiers Road
Indooroopilly
Queensland 4068, Australia

Dear Dr. Johnson:

I would like to request permission to visit your herbarium and collect in Queensland. My project is the biochemistry of the Compositae. This project is headed by Professor F. Bohlmann of Berlin. I am working with Harold Robinson also of this institution. I believe that you have already met with Dr. Robinson.

I would like to spend about a week or ten days in Queensland collecting mainly Compositae and chemical material. I would also make some other general collections. Would be able to help in the names and shipping of the plants? I expect to arrive in Brisbane around the first of August. Would it be possible to dry my collections at your herbarium?

I look forward to hearing and meeting with you.

Sincerely,

R. M. King
Robert M. King

Department of Botany