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5th Floor, Hunt Library
Carnegie Mellon University
4909 Frew Street
Pittsburgh, PA 15213-3890
Telephone: 412-268-2434
Email: huntinst@andrew.cmu.edu
Web site: www.huntbotanical.org

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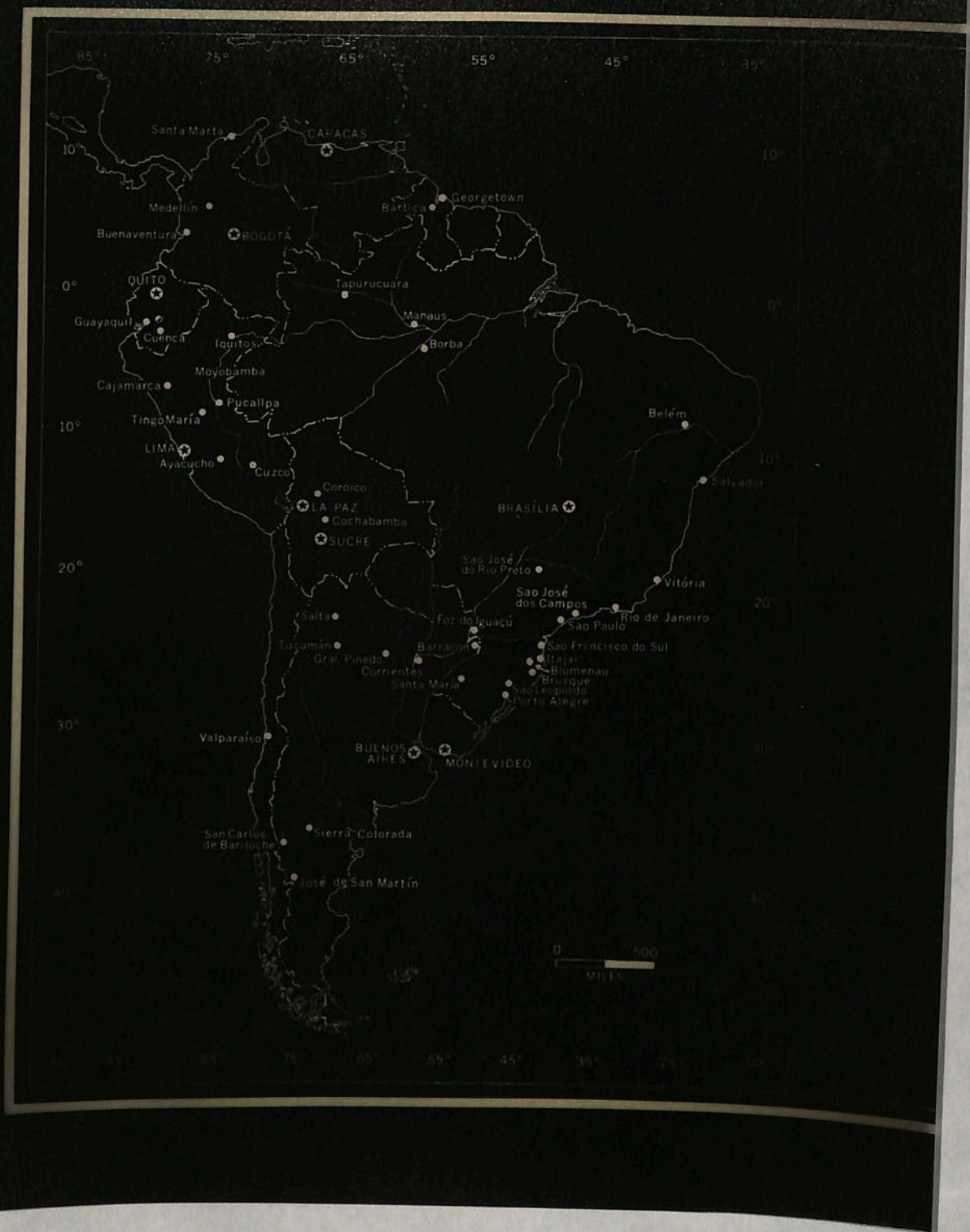
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About the Institute

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.



Families and Genera of Neotropical Tremellales

A. Heterobasidiomycetidae

~~4~~ Eutremellales

I. Auriculariaceae

- Auricularia 7
- Eocranartium 1
- Helicogloea 5
- Jola 1
NEOTYPHULA 1
- Phyllogloea 2
PLATYCARPA 2
- Platyglaea 6

II. Hyaloriaceae

- Hyaloria 1

III. Phleogenaceae

- Hoehnelomyces 1
- Phleogena 2

IV. Sirobasidiaceae

- Sirobasidium 3 1

V. Tremellaceae

- Aporpium 1
- Bourdotia 7
- Ductifera 5
- Eichleriella 1
- Exidia 9
- EXIDIOPSIS 8
- Heterochaete 16
- Heterochaetella 2
- Holtermannia 1
- Patouillardina 1
- Phlogiotis 1
- Protohydnum 1
- Protomerulius 1
- Pseudohydnum 2
- Sebacina 1
- Stypella 3
- Tremella 16
- Tremellodendron 5

B. Metabasidiomycetidae

Metatremellales →

VI. Tulasnellaceae

- Pseudotulasnella 1
- Tulasnella 2

VII. Ceratobasidiaceae

- Ceratobasidium 1 1

VIII. Dacrymycetaceae

- Arrhytidia 2
- Calocera 3
- Cerinomyces 1
- Dacrymyces 7
- Dacryopinax 5
- Ditiola 1
- Guepinopsis 1

Distribution of Genera and Species of Neotropical Tremellales

Auriculariaceae

(144 spp) (3 spp nov.)
T. 40 gen. (12 gen. monotypic)
(22 spp nov. BL)
>15%

1. Auricularia (7)

A. auricula: Mexico.

A. delicata: Mexico, Guatemala, Br. Honduras, Costa Rica, Panama, Cuba, Jamaica, Haiti, Dom. Rep., Puerto Rico, St. Croix, Colombia, Venezuela, Peru, Bolóvia, Brazil, Argentina.

A. fuscococcinea: Mexico, Guatemala, Br. Honduras, Nicaragua, Costa Rica, Panama, Cuba, Jamaica, Grenada, Guadeloupe, Puerto Rico, Venezuela, Trinidad, Fr. Guiana, Ecuador, Peru, Bolivia, Brazil, Uruguay, Argentina.

A. mesenterica: Mexico, Guatemala, Honduras, Nicaragua, Costa Rica, Panama, Cuba, Jamaica, Grenada, Trinidad, Peru, Brazil, Paraguay, Argentina.

A. peltata: Panama.

A. polytricha: Mexico, Guatemala, Br. Honduras, El Salvador, Nicaragua, Costa Rica, Panama, Cuba, Bahama Isl., Jamaica, Grenada, Sta. Lucia, Montserrat, Colombia, Venezuela, Trinidad, Surinam, Fr. Guiana, Ecuador, Peru, Bolivia, Brazil, Argentina.

A. tenuis: Jamaica, Colombia, Brazil, Argentina.

2. Eocronartium (1)

E. muscicola: Colombia, Brazil, Argentina.

3. Helicogloea

H. aurea: Panama.

H. inconspicua: Colombia.

H. intermedia: Cuba, Panama, Brazil.

H. lagerheimii: Panama, Colombia, Brazil.

H. sphaerospora: Brazil.

4. Jola

J. hookeriarum: Panama, Venezuela, Brazil.

42. NEOTYPHULA : GALÁPAGOS
N. quisanensis

5. Phyllogloea

P. singeri: Bolivia.

P. tremelloidea: Brazil sp. nov.

52. PLATYCARPA : JAMAICA, BOLIVIA

P. boliviana

P. polypodii

6. Platygløea

P. blastomyces: Brazil.

P. brunnea: Brazil.

P. carnea: Mexico, Ecuador.

P. cissi: Ecuador.

P. decipiens: Ecuador.

P. succinea: Ecuador.

Hyaloriaceae

7. Hyaloria

H. pilacre: Guyana, Colombia, Brazil.

H. trailii: Brazil.

Phleogenaceae

8. Hoehnelomyces

H. delectans: Brazil.

9. Phleogena

P. faginea: Nicaragua, Costa Rica, Panama, Venezuela, Cuba, Brazil.

Sirobasidiaceae

10. Sirobasidium

S. albidum: Ecuador, Brazil.

S. brefeldianum: Brazil.

S. sanguineum: Ecuador, Brazil.

Tremellaceae11. Aporpium

A. caryae: Costa Rica, Venezuela.

12. Bourdotia

B. burtii: Panama, Brazil.

B. cinerea: Mexico, Panama, Colombia, Peru, Brazil.

B. eyrei: Costa Rica, Panama, Colombia.

B. galzinii: Panama.

B. grandinioides: Guyana, Brazil.

B. obscura: Panama.

B. petiolata: Panama, Cuba, Brazil.

13. Ductifera

D. argentinensis: Argentina.

D. calcarea: Bolivia.

D. exidioidea: Guatemala.

D. pululahuana: Mexico, Guatemala, Costa Rica, Panama, Cuba, Ecuador.

D. sucina: Brazil.

14. Eichleriella

E. alliciens: Brazil.

E. leveilliana: Mexico, Costa Rica, Bahama Isl., Cuba, Brazil, Argentina.

E. macrospora: ~~Brazil (?)~~ MEXICO

E. spinulosa: Mexico.

15. Exidia

E. ambipapillata: Guatemala.

E. antiquae: Guatemala.

E. glandulosa: Mexico, Brazil.

E. lutea: Guatemala.

E. maya: Guatemala.

E. mexicana: Mexico.

E. nucleata: Mexico, Guatemala, Costa Rica, Panama, Cuba, Bolóvia, Brazil.

E. recisa: Mexico, Guatemala.

E. tucumanensis: Argentina.

16. Exidiopsis

E. candida: Panama, Colombia, Argentina.

E. fuliginea: Brazil.

E. grisea: Ecuador.

E. laccata: Costa Rica.

E. mucedinea: Panama, Brazil.

E. opalea: Brazil.

E. podlachica: Panama, Colombia, Cuba, Brazil.

E. sublivida: Brazil.

17. Heterochaete

H. albida: Panama, Ecuador, Brazil.

H. andina: Mexico, Costa Rica, Ecuador, Argentina.

H. brasiliensis: Brazil.

H. crassa: Brazil.

H. gelatinosa: Mexico, Panama, Cuba, Colombia, Ecuador, Brazil.

H. hirneoloides: Ecuador.

H. livida: Ecuador, Brazil.

H. livido-fusca: Cuba, Ecuador, Brazil.

H. microspora: Mexico.

H. minuta: Panama, Guyana, Ecuador.

H. ochracea: Grenada, Ecuador, Brazil.

H. sanctae-catherinae: Brazil, Cuba.

H. sanctae martae: Cuba, Colombia, Brazil.

H. shearii: Mexico, Panama, Puerto Rico, Cuba, Colombia, Brazil.

H. subgelatinosa: Panama.

H. verruculosa: Trinidad, Colombia, Brazil.

18. Heterochaetella

H. dubia: Panama, Brazil.

H. ~~-----~~ cystidiophora Brazil. *sp. nov.*

19. Holtermannia

H. damaecornis: Brazil.

20. Patouillardina

P. cinerea: Mexico, Panama, Cuba, Brazil.

21. Phlogiotis

P. helvelloides: Mexico, Puerto Rico.

22. Protohydnum

P. cartilagineum: Mexico, Guyana, Panama.

23. Protomerulius

P. brasiliensis: Brasil.

P. richenii: Brazil.

24. Pseudohydnum

P. gelatinosum: Mexico, Panama, Bolivia, Brazil.

25. Sebacina

S. epigaea: Guatemala, Costa Rica.

S. incrustans: Mexico, Costa Rica.

26. Stypella

S. minor: Panama, Colombia, Brazil.

S. papillata: Brazil.

S. robusta: Brazil.

27. Tremella

- T. aurantia: Argentina.
T. brasiliensis: Panama, Brazil.
T. clavisterigma: Guatemala.
T. compacta: Trinidad, Brazil.
T. concrescens: Brazil.
T. durissima: Argentina.
T. encephala: Argentina.
T. fibulifera: Costa Rica, Panama, Colombia, Brazil.
T. fimbriata: Mexico, Guatemala, Cuba, Colombia.
T. fuciformis: Mexico, Jamaica, Cuba, Venezuela, Chile, Brazil, Argentina.
T. lutescens: Mexico, Honduras, Costa Rica, Panama, Jamaica, Peru, Brazil.
T. moriformis: Brazil.
T. rubromaculata: Guatemala, Brazil.
T. tubercularia: Colombia.
T. volcanagua: Guatemala.
T. wrightii: Panama, Trinidad, Guyana, Brazil.

28. Tremellodendron

- T. candidum: Mexico, Costa Rica.
T. merismatoides: Mexico.
T. schweinitzii: Mexico, Puerto Rico, Brazil.
T. simplex: Cuba, Puerto Rico.
T. tenue: Jamaica, Bermuda, Argentina.

MetabasidiomycetidaeTulasnellaceae

29. Pseudotulasnella: Guatemala.
P. guatemalensis: Guatemala.

30. Tulasnella

- T. lactea: Panama.

T. rutilans: Chile.

T. sphaerospora: Panama.

T. violea: Colombia.

Ceratobasidiaceae

31. Ceratobasidium

C. atratum: Panama, Guyana, Brazil.

C. fibrillosum: Mexico, Colombia.

Dacrymycetaceae

32. Arrhytidia

A. involuta: Mexico, Costa Rica, Panama, Colombia, Argentina, Brazil.

A. involuta var. boliviensis: Bolivia.

33. Calocera

C. coralloides: Bolivia.

C. cornea: Mexico, Guatemala, Honduras, Costa Rica, Panama, Jamaica, Colombia, Peru, Chile, Brazil, Argentina.

C. macrospora: Panama.

34. Cerinomyces

C. lagerheimii: Ecuador, Brazil.

35. Dacrymyces

D. deliquescens var. ellisii: Mexico, Panama, Brazil.

D. deliquescens var. deliquescens: Mexico, Panama, Brazil, Argentina.

D. dictyosporus: Mexico, Honduras.

D. enatus: Panama.

D. falcatus: Jamaica, Panama.

D. palmatus: Mexico.

D. punctiformis: Mexico.

36. Dacryopinax
spathularia:

D. flabelliformis sp. nov. Colombia

D. [redacted] Mexico, Guatemala, Honduras, Costa Rica, Panama, Jamaica, Cuba,
Puerto Rico, Colombia, Venezuela, Fr. Guiana, Ecuador, Peru, Chile,
Bolivia, Brazil, Argentina.

D. indacocheae: Bolivia, Brazil.

elegans:

D. [redacted] Mexico, Costa Rica, Panama, Jamaica, Puerto Rico,
Dominican Republic, Grenada, Colombia, Guyana.

D. yungensis: Bolivia.

D. martinii: Colombia.

D. dennisii: Venezuela.

37. Ditiola

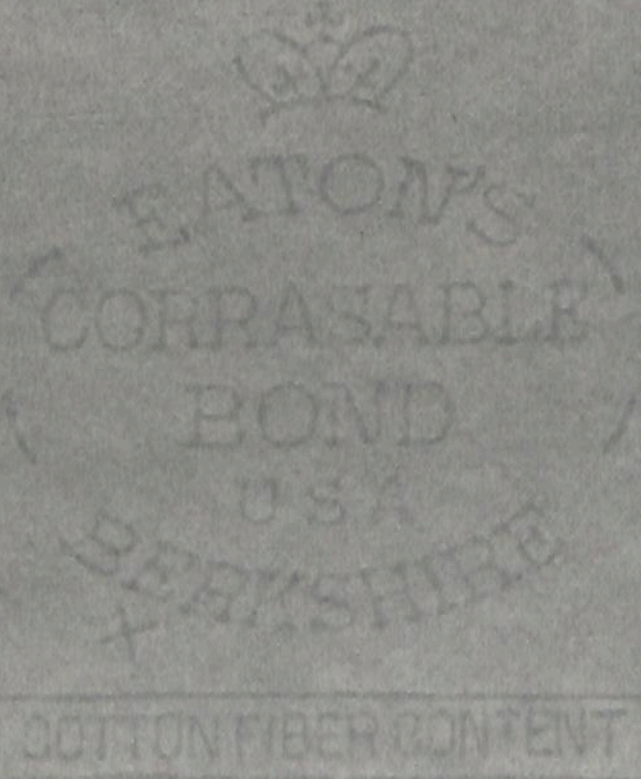
D. coccinea: Argentina.

D. radicata: Mexico, Guatemala, Panama, Brazil, Argentina.

38. Guepiniopsis

G. alpina: Argentina.

G. buccina: Mexico, Argentina.



Major dates and places of collections

IV
13-~~IV~~-1968 Puerto Rico
Mayaguez

14-VI Los Viveros, Mayaguez

15-VI Bosque de Toro Negro

17-20-VI San German

24-29-VI Bosque Exp. de Luquillo (El Yunque)

2-VII Bosque Guavate-Carite (Sierra de Cayey)

3-4-VII Bet. Utuado & Lares (Road to San Sebastian) (Adjunto) (see individual col.)

5-VII Shores of Lake Guajataca

Jamaica

13-VII Strawberry Hill, St. Andrew Parish

14-15-VII Blue Mts. above Whitfield Hall, St. Thomas Parish

17-19-VII Green Hills, Portland Parish

20-21-VII Port Antonio, Portland Parish

23-VII Port Royal

Dominican Republic

25-VII El Rio, Prov. La Vega

26-VII Constanza, Prov. La Vega

27-VII near Buena Vista, Prov. La Vega (in pine forest)

Families and Genera of Neotropical Tremellales

A. Heterobasidiomycetidae

Eutremellales

- | | |
|----------------------------|------------------------|
| I. <u>Auriculariaceae</u> | V. <u>Tremellaceae</u> |
| Auricularia 7 | Aporpium 1 |
| Eocronartium 1 | Bourdotia 7 |
| Helicogloea 5 | Ductifera 5 |
| Jola 1 | Eichleriella 4 |
| Neotyphula 1 | Exidia 9 |
| Phyllogloea 2 | Exidiopsis 8 |
| Platycarpa 2 | Heterochaete 16 |
| Platygløea 6 | Heterochaetella 2 |
| II. <u>Hyaloriaceae</u> | Holtermannia 1 |
| Hyaloria 2 | Patouillardina 1 |
| III. <u>Phleogenaceae</u> | Phlogiotis 1 |
| Hoehnelomyces 1 | Protohydnum 1 |
| Phleogena 1 | Protomerulius 2 |
| IV. <u>Sirobasidiaceae</u> | Pseudohydnum 2 |
| Sirobasidium 3 | Sebacina 2 |
| | Stypella 3 |
| | Tremella 16 |
| | Tremellodendron 5 |

B. Metabasidiomycetidae

Metatremellales

- | | |
|-------------------------------|------------------------------|
| VI. <u>Tulasnellaceae</u> | VIII. <u>Dacrymycetaceae</u> |
| Pseudotulasnella 1 | Arrhytidia 2 |
| Tulasnella 4 | Calocera 3 |
| VII. <u>Ceratobasidiaceae</u> | Cerinomyces 1 |
| Ceratobasidium 2 | Dacrymyces 7 |
| | Dacryopinax 5 |
| | Ditiola 2 |
| | Guepinopsis 2 |

Neotropical Tremellales

B. Lowy

The Tremellales constitute a heterogeneous assemblage of fungi that has traditionally been separated from the homobasidiomycetes since the studies of Patouillard (1887) and Brefeld (1888), although the morphological diversity of tremellaceous basidia was first elucidated by Tulasne (1853). The major distinguishing characteristics of the Tremellales are the great structural versatility of the basidium, basidiospore germination by repetition, enlarged to grossly inflated sterigmata and a predominantly gelatinous or waxy basidiocarp.

A new subclass, Metabasidiomycetidae, is established to contain taxa that are transitional between the homobasidiomycete and heterobasidiomycete complexes and includes the Tulasnellaceae, Dacrymycetaceae and Ceratobasidiaceae.

The Heterobasidiomycetidae are interpreted as representing the more primitive group with highly diversified basidia including types from which the more stable holobasidium may have been derived and the subclass is reserved for taxa having completely divided basidia such as characterize the Auriculariaceae, Hyaloriaceae, Phleogenaceae, Sirobasidiaceae and Tremellaceae.

One hundred forty-four species are reported from neotropical America, 76 of which are restricted to the tropical zone. The geographical distribution of all species has been mapped and drawings showing pertinent microscopic details of representatives of the eight families treated are also presented.

Taxa reported only from tropical America

Auricularia peltata

A. tenuis

Helicogloea aurea

H. inconspicua

H. intermedia

Saccoblastia sphaerospora

Jola hookeriarum

Neotyphula guianensis

Phyllogloea singeri *

P. tremelloidea *

Platycarpa boliviensis

P. polypodii

Platygløea blastomyces

P. brunnea

P. carnea

P. cissi

P. decipiens

P. succina

Hyaloria pilacre

H. trailii

Hoehnelomyces delectans

Sirobasidium albidum

S. brefeldianum

Bourdotia obscura

B. petiolata

Ductifera exidioidea *

D. argentinensis *

D. calcarea *

D. sucina

Exidia ambipapillata *

E. maya *

E. mexicana *

E. antiquae *

E. tucumansis *

Exidiopsis candida

Heterochaete albida

H. brasiliensis

H. gelatinosa

H. sanctae-catherinae

H. livida

H. livido-fusca

H. microspora

H. minuta

H. ochracea

H. subgelatinosa

H. verruculosa

Heterochaetella cystidiophora *

Holtermannia damaecornis

Patouillardina cinerea

Protohydnum cartilagineum

Protomerulius brasiliensis

P. richenii

Pseudohydnum gelatinosum var. paucidentata *

Stypella robusta *

Tremella fibulifera

T. durissima *

T. rubromaculata *

T. compacta

Tremella brasiliensis

T. clavisterigma *

T. volcanagua *

T. wrightii

Tremellodendron simplex

Pseudotulasnella guatemalensis *

Tulasnella sphaerospora

Ceratobasidium fibrillosum

Arrhytidia involuta var. boliviensis *

Calocera coralloides

C. macrospora

Dacrymyces dictyosporus

D. falcatus

Dacryopinax ~~sp. nov.~~ dennisii

D. martinii *

D. yungensis *

D. indacoacheae *

Ditiola coccinea *

* Lowy sp. nov.

Taxa reported only from tropical America

Auricularia peltata

Panama.

A. tenuis

Jamaica, Colombia, Brazil, Argentina.

Helicogloea aurea

Panama.

H. inconspicua

Colombia.

H. intermedia

Cuba, Panama, Brazil.

Saccoblastia sphaerospora

Brazil.

Jola hookeriarum

Panama, Venezuela, Brazil.

Neotyphula guianensis

Galapagos.

Phyllogloea singeri *

Bolivia.

P. tremelloidea *

Brazil.

Platycarpa boliviensis

Jamaica, Bolivia.

P. polypodii

Jamaica, Bolivia.

Platygloea blastomyces

Brazil.

P. brunnea

Brazil

P. carnea

Mexico, Ecuador.

P. cissi

Ecuador.

P. decipiens

Ecuador.

P. succina

Ecuador.

Hyaloria pilacre

Guyana, Colombia, Brazil.

H. trailii

Brazil.

Hoehnelomyces delectans

Brazil.

Sirobasidium albidum

Ecuador, Brazil.

S. brefeldianum

Brazil.

Bourdotia obscura

Panama.

B. petiolata

Panama, Cuba, Brazil.

Ductifera exidioidea *

Guatemala.

D. argentinensis *

Argentina.

D. calcarea *

Bolivia.

D. sucina

Brazil.

Exidia ambipapillata *

Guatemala.

E. maya *

Guatemala.

E. mexicana *

Mexico.

E. antiguae *

Guatemala.

E. tucumansis *

Argentina.

Exidiopsis candida

Panama, Colombia, Argentina.

Heterochaete albida

Panama, Ecuador, Brazil.

H. brasiliensis

Brazil.

H. gelatinosa

Mexico, Panama, Cuba, Colombia, Ecuador, Brazil.

H. sanctae-catherinae

Brazil, Cuba.

H. livida

Ecuador, Brazil.

H. livido-fusca

Cuba, Ecuador, Brazil.

H. microspora

Mexico.

H. minuta

Panama, Guyana, Ecuador.

H. ochracea

Grenada, Ecuador, Brazil.

H. subgelatinosa

Panama.

H. verruculosa

Trinidad, Colombia, Brazil.

Heterochaetella cystidiophora *

Brazil.

Holtermannia damaecornis

Brazil.

Patouillardina cinerea

Mexico, Panama, Cuba, Brazil.

Protohydnum cartilagineum

Mexico, Guyana, Panama.

Protomerulius brasiliensis

Brazil.

P. richenii

Brazil.

Pseudohydnum gelatinosum var. paucidentata *

Mexico, Panama, Bolivia, Brazil.

Stypella robusta *

Brazil.

Tremella fibulifera

Costa Rica, Panama, Colombia, Brazil.

T. durissima *

Argentina.

T. rubromaculata *

Guatemala, Brazil.

T. compacta

Trinidad, Brazil.

Tremella brasiliensis

Panama, Brazil.

T. clavisterigma *

Guatemala.

T. volcanagua *

Guatemala.

T. wrightii

Panama, Trinidad, Guyana, Brazil.

Tremellodendron simplex

Cuba, Puerto Rico.

Pseudotulasnella guatemalensis *

Guatemala.

Tulasnella spaerospora

Panama.

Ceratobasidium fibrillosum

Mexico, Colombia.

Arrhytidia involuta var. boliviensis *

Bolivia.

Calocera coralloides

Bolivia.

C. macrospora

Panama.

Dacrymyces dictyosporus

Mexico, Honduras.

D. falcatus

Jamaica, Panama.

Dacryopinax dennisii

Venezuela.

D. martinii *

Colombia.

D. yungensis *

Bolivia.

D. indacoacheae *

Bolivia, Brazil.

Ditiola coccinea *

Argentina.

* Lowy sp. nov.

RECORD OF MAJOR FIELD TRIPS IN BRASIL

<u>DATE</u>	<u>PLACE</u>
22-VI-1965	Serra da Cantareira, Horto Florestal, Est. Sao Paulo
24-VI	Cachoeira da Franca, Usina Hidroelectrica de Comp. Brasileira de Aluminio. km 77 Rodovia Sao Paulo Curitiba
30-VI	Serra do Mar, Caminho Velho a Santos. km 46-47
13-VII	Picada Gardner, Parque de Estado, Sao Paulo
19-VII	km 280, BR 55, road to Belo Horizonte: km 128, 293, 182, 317.
22-26-VII ,,,.....	Brasilia (Municipalidad de Gama etc) (Dr. Ezekias Heringer)
27-28-VII	Belo Horizonte (Dr. E. Fonesca)
12-VIII	Picada Gardner (Dr. Boris Skvortzov)
16-22-VIII	Blumenau: 18th Itajai; 20th Brusque (Padre Raulino Reitz); 22nd Morr de Bau (Padre Reitz)
17-20-IX	San Jose de Rio Preto, Facultad de Filosofia, Ciencias y Letras
8-X to 3-XII	Manaus (Manacapuru, Solimoes) (Tapurucuara, Rio Negro) (Caminho a Itacoatiara) (Santarem, Tapajos) Reserva Bucke
13-I-1966	Horto Florestal, Sao Paulo
20-I	Paranapiacaba, Serra do Mar
28-30-I	Ubatuba, S. P. (Est. Eyper.) (Joao Furtado)
4-II	Inst. Bot. S. P.
7-II	Inst. Bot. S. P.
1-5-IV	Parque Nacional de Itatiaia: 3rd, Brejo do Lapa y Agulhas Negras; 4th, Mata da Tijuca; 5th, Campos do Jordao
13-20-IV	Parque Nacional de Iguacu, Est. Parana
3-11-VI	Belem - Inst. Agron. do Norte

Numbers, collection dates, localities and elevation in meters. List not complete. Some tropical collections, especially those which appeared in moist chambers, are listed in current records.

Panama. 1935

- 2001-2040. 22-25 June. Canal Zone: Balboa, base of Ancon Hill, 20-75 m.
 2041-2057. 27 June. Prov. Chiriqui: Llanos del Volcan. 1200-1350 m.
 2058-2059. 28 June. Prov. Chiriqui: Valley of upper Rio Chiriqui Viejo. 1350-1600 m.
 2060-2109. 28 June. Same. 1600-1800 m.
 2110-2150. 30 June. Same.
 2151-2233. 1 July. Same.
 2234-2305. 1 July. Same.
 2306-2359. 2 July. Same.
 2360-2443. 3 July. Same.
 2444-2494. 4 July. Same.
 2495-2554. 5 July. Same.
 2555-2595. 6 July. Same.
 2596-2634. 7 July. Same.
 2635-2555. 8 July. Same. 1800-2000 m.
 2667-2668. 8 July. Same. 1600-1800 m.
 2669-2686. 9 July. Same.
 2687-2727. 10 July. Same.
 2728-2756. 11 July. Same.
 2757-2767. 12 July. Same.
 2768-2770. 13 July. Same.
 2771-2775. 13 July. Same. 1350-1600 m.
 2776-2788. 13 July. Prov. Chiriqui: In forest south of Llanos del Volcan. 1000-1200 m.
 2789-2836. 14 July. Same, except 2789-2791, 2793, 2796-2804, 2806, 2807, 2812, 2813, 2816, 2817, 2819, 2822, 2829; Llanos del Volcan. 1200-1350 m.
 2837-2842. 15 July. Same.
 2843. 15 July. Prov. Chiriqui: Llanos del Volcan. 1200-1350 m.
 2844-2854. 17 July. Canal Zone. Ancon Hill. 20-75 m.
 2855. 16 July. Prov. Chiriqui: In forest south of Llanos del Volcan. 1100-1200 m.
 2856-2858. 18 July. Canal Zone: Ancon Hill. 20-75 m.
 2859-2890. 19 July. Canal Zone: Summit.
 2891-2896. 20 July. Canal Zone: Ancon Hill. 20-75 m.
 2897-2912. 22 July.
 2913-. 22 July. Canal Zone: Summit.
 2914. 22 July. Canal Zone: Ancon Hill. 20-75 m.
 2915-2929. 23 July. Prov. Coclé: El Valle de Anton. 600-700 m.
 2930-2977. 24 July. Same. 500-600 m.
 2978-3031. 25 July. Prov. Coclé: Valle Chiquita, about 7 k. so. of El Valle de Anton.
 3032-3033. 26 July. Prov. Coclé: El Valle de Anton. 600-700 m.
 3034-3037. 26 July. Prov. Coclé: Llano Bonito, no. of Las Margaritas. 400-500 m.
 3038-3039. 26 July. Prov. Coclé: El Valle de Anton. 600-700 m.
 3040-3070. 30 July. Canal Zone: Valley of Rio Chagres, vicinity of Madden Dam. 50-100 m.
 3071-3085. 31 July. Canal Zone: Las Cruces. Coll. A. M. Bouche, Jr.
 3087-3171. 31 July. Canal Zone: Barro Colorado Island. 20-75 m.
 3172-3173. 31 July. Canal Zone: Frijoles. 20 m.
 3174-3176. 31 July. Canal Zone: Las Cruces. Coll. A. M. Bouche, Jr.
 3177-3197. 1 Aug. Prov. Panama: Valley of Rio Tocuman, about 10 k. east of Juan Diaz, 20-100 m.

Colombia - 1935

Sierra Nevada de Santa Marta. Dept. Magdalena.

- 3198-3207. 8 Aug. Hacienda Cincinnati. Alt. 1250-1500 m.
 3208-3237. 9 Aug. Same.
 3238-3272. 10 Aug. Same.
 3273-3305. 11 Aug. Same.
 3304-3312. 12 Aug. Trail between Hacienda Cincinnati and Jamonical.
 Alt. 1000-1250 m.
 3313-3340. 12 Aug. Hacienda Cincinnati. Alt. 1250-1500 m.
 3341-3355. 13 Aug. Same.
 3356-3391. 14 Aug. Vicinity of Dos Aguas, east of Hacienda Cincinnati. 1600-1800 m.
 3392-3394. 14 Aug. Hacienda Cincinnati. Alt. 1250-1500 m.
 3395-3419. 15 Aug. Same.
 3420-3427. 16 Aug. Same.
 3428-3482. 17 Aug. Same.
 3483-3506. 18 Aug. Same.
 3507-3508. 19 Aug. Same.
 3509-3542. 19 Aug. Hacienda Valparaiso. Alt. 1200-1400 m.
 3543-3572. 20 Aug. Hacienda Cincinnati. Alt. 1250-1500 m.
 3573-3634. 22 Aug. Same.
 3635-3673. 23 Aug. Cerro Quemado trail. Alt. 1500-2300 m.
 3674-3688. 24 Aug. Hacienda Cincinnati. Alt. 1250-1500 m.
 3689-3716. 24 Aug. Cerro Quemado trail. Alt. 1500-2300 m.
 3717-3763. 26 Aug. Same.
 3764-3776. 26 Aug. Hacienda Cincinnati. Alt. 1250-1500 m.
 3777-3817. 28 Aug. Cerro Quemado trail. Alt. 1500-2300 m.
 3818-3825. 31 Aug. Hacienda Cincinnati. Alt. 1250-1500 m.

Panama - 1937

- 3981-3982. 6 Aug. Canal Zone: Balboa, at base of Ancon Hill, 20-50 m.
 3983-3992. 7 Aug. Same.
 3993. 8 Aug. Canal Zone: Ancon, 20-30 m.
 3994-3995. 9 Aug. Canal Zone: Barro Colorado Island, 20-75 m.
 3996-4087. 10 Aug. Same.
 4088-4152. 11 Aug. Same.
 4153-4170. 12 Aug. Canal Zone: Balboa, at base of Ancon Hill, 20-50 m.
 4171-4173. 13 Aug. Same.
 4174-4202. 13 Aug. Canal Zone: 3 k. east of Arraijan, 5-25 m.
 4203-4217. 14 Aug. Canal Zone: Balboa, at base of Ancon Hill, 20-50 m.
 4218-4222. 15 Aug. Same.
 4223-4226. 16 Aug. Same.
 4227. 19 Aug. Prov. Chiriqui: Casita Alta, on trail between Boquete and
 summit of El Volcan, 2000-2200 m.
 4228-4298. 20 Aug. Same.
 4299-4345. 21 Aug. Same.
 4346-4377. 22 Aug. Same.
 4378-4432. 23 Aug. Same.
 4433-4439. 24 Aug. Prov. Chiriqui: trail between Finca Lerida and Casita Alta,
 1600-2100 m.
 4440-4448. 24 Aug. Prov. Chiriqui: Finca Lerida, above Boquete, app. 1600 m.
 4449-4479. 25 Aug. Prov. Chiriqui: vic. of Boquete, 1040-1100 m.

Panama - 1937 (Cont.)

- 4480-4490. 29 Aug. Prov. Panama: Taboga, 150-300 m.
4491-4495. 29 Aug. Same. 0-100 m.
4496-4551. 30 Aug. Canal Zone: Barro Colorado Island, 20-75 m.
4552-4553. 30 Aug. Canal Zone: Frijoles, 20-25 m.
4554-4578. 31 Aug. Canal Zone: Summit, 25-75 m.
4579-4627. 1 Sept. Canal Zone: 3 k. east of Arraijan, 5-25 m.
4628-4630. 5 Sept. Prov. Bocas del Toro. Almirante, 0-10 m.

Panama. 1945

(Spare time from army duties)

- 6001-6003. 5 July. Ft. Sherman Area - 0-100 m.
6004-6008. 6 July. Same.
6009-6016. 8 July. Low hills, 12 m. east of Colon.
6017-6024. 11 July. Ft. Sherman area.
6025-6030. 12 July. Same.
6031-6053. 15 July. Same.
6054-6059. 17 July. Same.
6060. 18 July. Frijoles.
6061-6091. 18 July. Barro Colorado Island.
6092. 21 July. Ft. Sherman Area.
6093-6111. 22 July. Same.
6112-6113. 23 July. Same.
6114-6137. 31 July. Same.
6138. 1 Aug. Balboa.
6139-6150. 4 Aug. Ft. Sherman Area.
6151-6165. 5 Aug. Same.
6166-6170. 6 Aug. Same.
6171-6173. 7 Aug. Same.
6174-6178. 9 Aug. Same.
6179-6205. 12 Aug. Same.
6206-6210. 14 Aug. Same.
6211-6219. 18 Aug. Same.
6220-6227. 19 Aug. Same.
6228-6242. Various dates. Same. 30 July to 1 Sept.
6243-6399. Includes many cultures from Panama, Ecuador, Peru and Galapagos.

Panama, Martin and Welden. 1952

- 7001-7021. 23 June. Barro Colorado Island.
7022-7077. 24 June. Same.
7078-7141. 25 June. Same.
7142-7195. 26 June. Same.
7196-7243. 28 June. Same.
7244-7277. 29 June. Same.
7278-7314. 30 June. Same.
7315-7336. 1 July. Same.
7337-7372. 2 July. Same.
7373-7409. 3 July. Same.
7410-7438. 4 July. Same.
7439-7445. 5 July. Same.
7446-7469. 6 July. Same.
7470-7495. 7 July. Same.

Panama - 1952 (Cont.)

- 7496-7568. 10 July. Rio Sardinilla.
7569-7598. 11 July. Barro Colorado Island.
7599-7643. 12 July. Same.
7644-7715. 13 July. Same.
7716-7743. 14 July. Same.
7744-7799. 16 July. Same.
7800-7855. 17 July. Same.
7856-7901. 18 July. Same.
7902-7937. 19 July. Same.
(7938-7953) Not entered - left open.
7954-7966. 25 July. Prov. Chiriqui, Pto. Armuelles.
7967-7969. 26 July. Same.
7970-7976. 27 July. Same.
7977-8012. 28 July. Same.
8013 30 July. Same. Boquete Alt. 1300 m.
8014-8015. 30 July. Same. Casita Alta 7000-7200 ft.
8016-8122. 31 July. Same.
8123-8197. 1 Aug. Same.
8198-8224. 2 Aug. Same. Trail Cas. Alta to Finca Lerida, 7000-7500 ft.
8225-8234. 2 Aug. Same. Boquete.
8226-8229. 5 Aug. Same. Pto. Armuelles.
8230-8231. 6 Aug. Same. Customs stop at Costa Rica border.
8232-8233. 6 Aug. Same. Customs stop on Costa Rica side.
8235-8272. 7 Aug. Costa Rica - Esquinas For. 35 k. east of Palmar.
8273 7 Aug. Same. Dacryopinax. Palmar Sur.
8274-8329. 8 Aug. Same. Hills above Palmar Norte.
8330-8364. 13 Aug. Panama, Canal Zone. Corundu

Note: gusts of wind disturbed these while drying.
Spore prints should be checked with specimen.

- 8365-8368. 13 Aug. Panama: v. Tucumen.
8369-8373. 13 Aug. Same. Savannas east of Panama City.
8374-8382. 14 Aug. Same. Barro Colorado Island.
8383-8423. 15 Aug. Same.
8424-8474. 16 Aug. Same.
8475 17 Aug. Same.
8476-8521. 18 Aug. Same.
8522-8533. 19 Aug. Same.
8539-8602. 20 Aug. Same.
8603-8658. 22 Aug. Same.
8659-8687. 23 Aug. Same.
8688-8706. 24 Aug. Same.
8707-8709. 26 Aug. Same. Fort Sherman.
8710 27 Aug. Same. Barro Colorado
8712-8748 July-Aug. Same. Misc. & Moist chamber cult.

This is not complete. Some specimens were dated but not numbered in field and were entered later in various places in collecting notes. The same is true of many specimens developed in moist chambers.

