

# MYCOLOGICAL NOTES.

BY C. G. LLOYD.

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ELIAS FRIES  
UNIVERSITY OF CALIFORNIA  
(At the age of 80 years)  
AT LOS ANGELES

JAN 20 1942



# ELIAS MAGNUS FRIES

Those who have read after me have perhaps good reason to think that I am not much of a hero-worshiper. But I bow very humbly at the shrine of Elias Fries. We all admire men who accomplish their objects in the world, men who do good and practical work, and Elias Fries, in my opinion, did more effective work in mycology than all others combined, since the days of Persoon. The chief point of excellence in Fries' work was that it was *systematic*. First he learned his subject thoroughly, then he wrote practical books that enabled others to learn it. I am not informed as to other branches of natural history, but I question if any other branch has as complete, as thorough, as accurate a hand-book as the mycologists have in Fries' *Hymenomycetes Europaei*.<sup>1</sup>

When Fries began his work, Persoon had almost finished his, and the work of Persoon was the foundation on which Fries built. All during his life Fries was the undisputed authority in mycology, and he molded mycological opinion throughout the world. His system of classification, which is a slight modification of Persoon's, has lasted down to our day, and is in general use now. More than one system has been proposed for the purpose of displacing Fries, but with little success, and it is a question if any is, on the whole, superior to that of Fries. I do not claim that Fries' is final, that it is not possible to modify to advantage some of his genera, but I think that Fries' system in the main will not be displaced in our generation. The specific descriptions of Fries are models of accuracy and conciseness, and have been extensively copied and translated. Fries seems to have had the happy faculty of selecting just the right words to characterize his species.

## THE LIFE OF FRIES

When I was in Sweden I made inquiries as to the events in the life of Fries, and while I shall not go into minute details, I will summarize some of the leading points.

Fries was born on the 15th day of August, 1794. His father was a dean of the established church of Sweden in a little, remote country district, called Femsjö, and it was there that Elias Fries was born. The elder Fries was a man of liberal education, well fitted to fill a more important post than a remote country parish, but he was assigned there when a young man, there he married and there he passed his life. Elias Fries tells us in one of his books that it was habitual with his father to speak in the Latin language with him, and the thorough familiarity of Elias Fries with Latin was due no doubt to his early training. The elder Fries also instructed his son

<sup>1</sup> When in a recent article I referred to mycological literature as largely composed of errors, inaccuracies and mistakes, I most assuredly did not refer to Fries' *Hymenomycetes Europaei*. But the word "accurate," even as referring to Fries' book, is used only relatively as compared to most of the mycological "literature."





ELIAS FRIES  
(At the age of 46 years)



(he was an only child) in botany, and it was from finding a specimen of *Hydnum coralloides*, while pursuing natural history studies with his father, that young Fries was first attracted to the study of fungi. As a young man he attended the university at Lund where he took his degree in his twentieth year. Soon after graduation he obtained a minor position with his Alma Mater, that of Docent (1814), then Adjunct, (1819), and in 1828 he was appointed Demonstrator of Botany at the University at Lund. In the meantime he became very much devoted to the study of mycology and a voluminous writer on the subject. When only twenty-seven years of age he began the *Systema Mycologicum*, a work of three volumes, which was finished in 1832, and was a complete account of all the fungi known in those days. Like all young men, Fries was at first ambitious to cover the whole fungus world, but like every one else, as the years rolled by, he contracted his field of study and his next extensive work, *Epicrisis Systematis Mycologici*, 1836-1838, was devoted exclusively to the Hymenomycetes. In 1834 he was appointed Professor of Practical Economics in the University at Upsala, which was then a section of Philosophy. Wahlenberg was at that time the head of the Department of Botany at Upsala.

Owing to the prevalence of cholera in Sweden in 1834, which interrupted means of travel, Fries was unable to reach Upsala until April, 1835. He resided there the remainder of his life, except a temporary residence at Stockholm, during the sessions of the Swedish Parliament ("Riksdag") of which he was for two sessions (1844-5 and 1847-8) a member. Fries succeeded Wahlenberg, and in 1851 was appointed Professor of Botany and Director of the Botanical Museum and of the Botanical Garden, which post he held until his retirement in his sixty-fifth year. During the last thirty years of his life Fries' studies were devoted more exclusively to the Hymenomycetes of Sweden, and principally to the fleshy agarics. He knew the agarics of Sweden as no man ever knew them before, or perhaps will ever learn them again. He was a most persistent and industrious searcher after fleshy fungi. He took long walks and covered much ground, in both the frondose and pine woods, and there is no question but that he met and knew practically all the fleshy agarics that grow in Sweden. But Fries' studies were not only made in the fields but in the literature, and he hunted up all the old illustrations and descriptions in order to get names for his plants. And to crown it all he wrote a complete text-book of the Hymenomycetes of Europe, not only a systematic account of his own observations, but a synopsis of all other literature of the subject. This work he finished on his eightieth birthday, August 15, 1874, the day on which the photograph was taken that we present on the first page of this pamphlet. Fries' Hymenomycetes of Europe remains to this day the only book covering the entire fungus field of Europe.<sup>2</sup>

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<sup>2</sup> The *Clavis Hymenomycetum*, by Cooke and Quélet, 1878, is a very convenient, condensed synopsis of Fries' book, and *Enchiridion Fungorum*, by Quélet, 1886, was a second edition of it (largely with the names juggled).



## FRIES' HERBARIUM

It is an inaccuracy to speak of Fries' herbarium. He made no herbarium. Such plants as are found in his collection appear to me



THE BOTANICAL MUSEUM AT UPSALA.

to be more the result of accident than design. Fries was not a museum-botanist; his studies were made in the fields and woods, and there the plants grew and grow that he described. In the woods of Sweden only are to be found the "types" of Fries. Practically all the plants to be found in Fries' herbarium, of his own collection (and they are very few) were left from his early days at Femsjö. After he went to



Upsala, during the latter forty years of his life, he hardly preserved a single plant. There were quite a number that were collected by his boys at Upsala, chiefly by E. P. Fries, that presumably were passed on by his father, but even as to this we have no certain knowledge. His herbarium is mostly made up of plants that were sent him by his correspondents, by Blytt from Norway, Karsten from Finland, Quélet from France, Kalchbrenner from Hungary, and others. While many of them are Friesian species, there is no evidence that Fries gave them any critical attention, and they have no authentic value excepting in those cases where particular specimens are mentioned in Fries' writings. Like most of the museums of Europe, Fries' herbarium is richer in foreign species than in European. One or two of Berkeley's Ohio plants and some of Schweinitz's species exist *only* in Fries' herbarium, as far as I know.

## FRIES' FAMILY

Elias Fries was the father of eight children, four daughters and four sons. The mycological world is only interested in the latter.

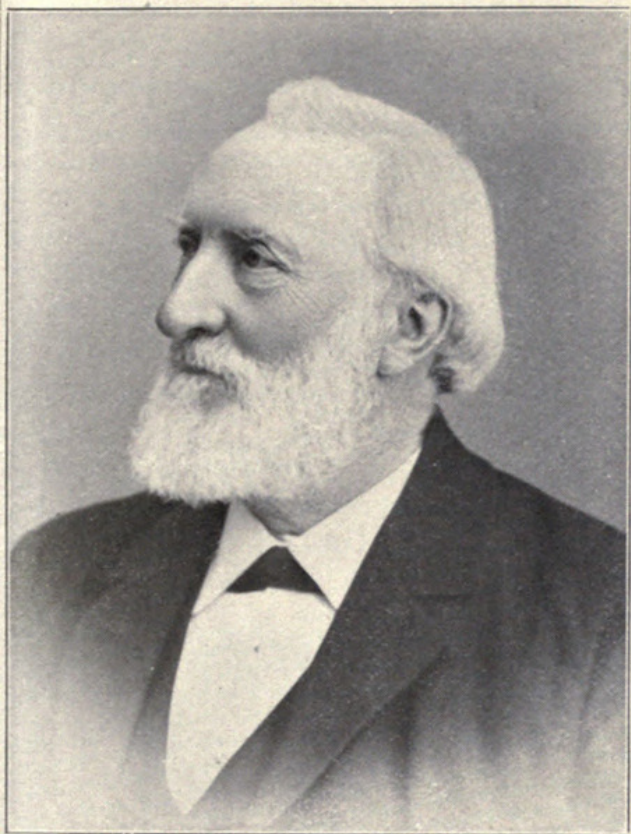
Theodore M. Fries, the eldest, is now a hale and hearty elderly man in his seventy-sixth year. He resides at Upsala. Of the four sons of Elias Fries, his eldest is the only one who has devoted his life to botanical studies, and he was a successor of his father in the botanical chair of the university at Upsala. Unfortunately, from a mycological view, he early became interested in lichens, and has chiefly devoted himself to this family. He has written many papers on the subject, and occupies the same exalted position in the lichen world that his father did in the fungus world. In explanation as to why he did not follow in the same field as his father, he tells me that when he began his studies, the microscope was just beginning to be used in the classification of lichens, and he became so interested in the problems that his whole time was taken in the investigation of the questions involved. It is undoubtedly a selfish view to take of it, but as a mycologist I can not but feel sorry that Theodore M. Fries was not early interested in mycology instead of lichenology.

Elias P. Fries, the second son of Elias M. Fries, early gave signs of interest in his father's subject, and there are more specimens to-day in the Friesian herbarium, collected by E. P. Fries at Upsala, than by the remainder of the family. He was evidently an enthusiastic student of the subject, and you will find in Fries' "Monographia" the account of many rare species discovered by his son, E. P. Fries. He died in his twenty-fourth year, and his early death was a severe blow to the hopes of his father. There is every indication that it was the intention of Elias Fries, as his eldest son had taken up the lichens, that his second son should follow in his own chosen field.

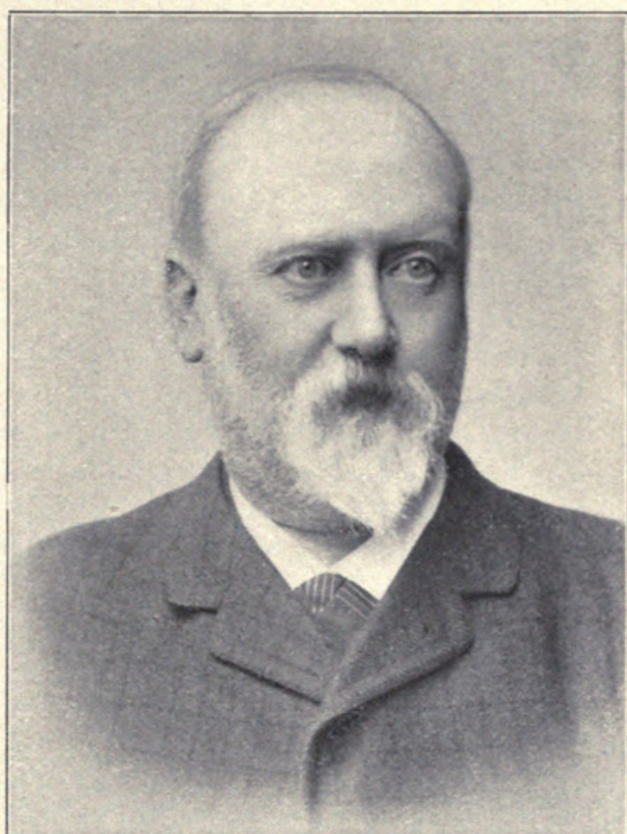
J. Otto Fries, the third son, is the only one who did not inherit a taste for natural history study. He is now a citizen of the United States, a civil engineer, residing at Orlando, Florida.

Oscar Robert Fries, the youngest son, was a student of fungi, and as a boy was a frequent companion of his father in his rambles in the

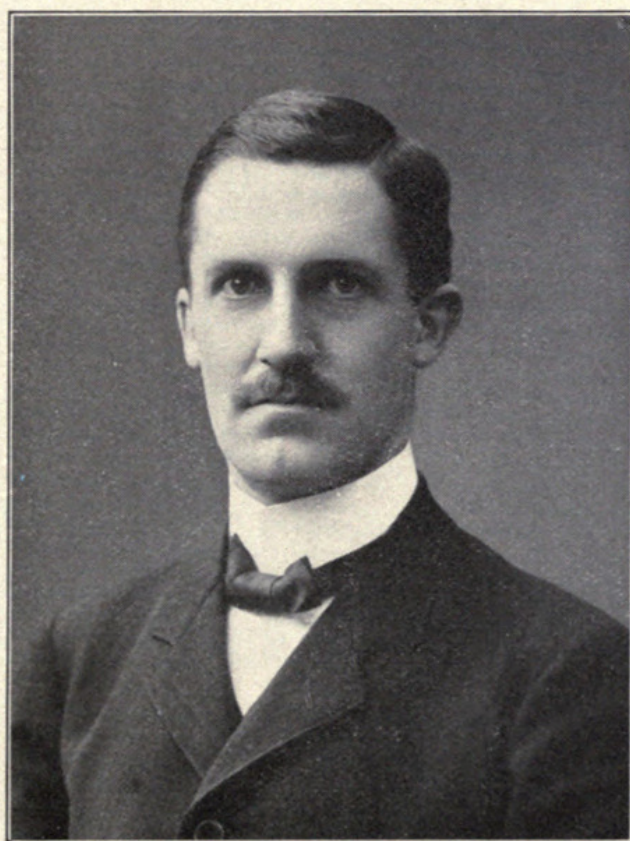




THEODOR MAGNUS FRIES



OSCAR ROBERT FRIES



KLAS ROBERT ELIAS FRIES



woods. The first season I spent in Sweden I learned a number of determinations of agarics that were on the authority of Elias Fries, through his son, Robert. He was always interested in mycology, but was a practicing physician with a large practice, and found little time to devote to the study of science. He was a frequent correspondent of Mr. Romell at Stockholm, to-day the leading mycologist of Sweden. For many years he was located at Göteborg, and published a list of Hymenomycetes of that region. He died very recently (June, 1908).

There are several grandsons of Elias Fries, young men who are interested in botany, and who we hope will finally direct their attention to mycology, and preserve the prestige of the illustrious family name. We are only acquainted with one of them.

Robert E. Fries is a specialist in the phænogamic botany of South America, and has made extensive collections there in the field. At present he is docent of botany and also assistant at the Botanical Garden at Upsala. He has also made an exhaustive study of the Myxomycetes, and has written papers on the Myxomycetes of South America and Sweden. He is the son of Theodor M. Fries. His study of the Myxomycetes began under the late Arthur Lister at London, the acknowledged master of this interesting family. I know very little of this subject myself, but I suspect Robert E. Fries has as good a knowledge of the Myxomycetes as any man in Europe to-day. He is a young man with a promising future before him, and we look for great work from him.

We will close with a *botanical* family tree of Elias Magnus Fries.

ELIAS MAGNUS FRIES (=Fr.)

professor \*1794 †1878

THEODOR MAGNUS FRIES (=Th. Fr.)

professor \*1832 (lichenology)

ELIAS PETRUS FRIES (=E. Fr. jr.)

doctor philos. \*1834 †1858 (mykology)

OSCAR ROBERT FRIES (=R. Fr.)

doctor medic. \*1840 †1908 (mykology)

Sons of ELIAS M. FRIES.

KLAS ROBERT ELIAS FRIES (=R. E. Fr.)

botanices docens \*1876 (Flora of South America)

THORE CHRISTIAN ELIAS FRIES (=Th. Fr. jr.)

student \*1886 (lichenology)

Sons of  
THEODOR M.  
FRIES.

ELIAS ARNE FRIES

student \*1887 (mykology)

Son of OSCAR R. FRIES.



## OUR PHOTOGRAPHS

The photograph on our first page is the familiar picture of Elias Fries, taken on his eightieth birthday, the day he finished the *Hymenomyces Europaei*. The second picture is a less familiar one, of Elias Fries at the age of forty-six. It was recently published in *Acta Horti Bergiani*, Bd. III, and is taken from an oil painting.

Our photographs of Theodor M. Fries, Oscar Robert Fries, and Robert E. Fries need no explanation.

The photograph on page 417 is of particular interest to me, as is everything in connection with the life of Elias Fries. The Botanical Museum at Upsala is a large, rectangular building with an inner court. During Fries' life the Director of the Museum lived in the upper story of the building, and the photograph shows the door of the inner court, giving access to his living rooms. Through this door Fries passed daily during his residence there from 1851 to 1862.



Elias Magnus Fries died on the eighth day of February, 1878. He is buried in a cemetery adjoining the University of Upsala, and our photograph is that of the slab of granite marking his final resting place.



## THE AMERICAN SPECIMENS IN THE HERBARIUM OF FRIES.

In the herbarium of Elias Fries at Upsala there are a number of historical specimens from America, some of them I believe not to be found elsewhere.

**SCHWEINITZ'S SPECIMENS.**—It is quite evident from both the writings of Fries and Schweinitz, that the latter sent Fries quite a complete set of his species from America. They are commented upon in Fries' *Elenchus*, and included in his *Epicrisis*. I hoped to find them at Upsala, but I believe that not one of these original specimens has been preserved. This is unfortunate, for some of them are missing (or very poor) in the Schweinitz herbarium at Philadelphia, and I had hoped to learn more concerning them at Upsala.

There are a few of Schweinitz's species with names pasted on that were evidently cut from a list which I supposed at first were in Schweinitz's writing. They are indorsed, however, in the handwriting of Theodor Fries "*Schwaegrichen Misit*," which I at first thought was an error. I took the matter up with Professor Fries and he looked up his father's correspondence and convinced me that these specimens did come from Schwaegrichen, who was a German professor at the University of Bonn. The names on the specimens appear to be in the same writing as a letter from Schwaegrichen, who wrote that he sent a package of specimens from America, but does not mention that they are from Schweinitz. They are all Schweinitzian species, however, and are undoubtedly authentic, but I believe are probably a division of specimens sent by Schweinitz to Schwaegrichen. I hope some day to look up the herbarium of Schwaegrichen if it exists, and may learn more from it concerning the species of Schweinitz. The following are all the undoubtedly authentic specimens from Schweinitz to be found at Upsala. The notes concerning them are my own views.

*Merulius brassicaefolius*, the same I think as *papyraceus* of Europe—*Merulius confluens*, for me it is *Merulius Corium*—*Merulius incarnatus*, nice specimen of well known plant of America, never collected in Europe. It is the same as Peck discovered was a "new species" and called *Merulius rubellus*.

*Polyporus cervinus*. This is of much interest, being the only good specimen that exists I think.<sup>3</sup> Recently Bresadola has published that *cervinus* is the same as *biformis*, and he takes it as the name for *biformis* notwithstanding that there is no question that *biformis* is the name used for the plant by Fries, Berkeley, and all American authors.<sup>4</sup> I feel well acquainted with *biformis* as I have collected it many times, have seen specimens in the museums and have received it often from my correspondents, and I should never have referred the Schweinitzian specimen of *cervinus* at Upsala to *biformis*. I do not know it and it is surely a rare plant in the United States. I can not say that it should not be referred as an unusual, abnormal form of *biformis*, but I do not believe even that.

*Polyporus scutellatus*, from Curtis "*ex. herb Schweinitz.*" It is a well known species—*Polyporus spissus*. The best specimen I have seen of this *Poria*. It is a peculiar American species with a number of aliases, discovered to be a "new species" on various occasions, often described, but never correctly but once and that was by Peck.—*Polyporus superficialis*, surely the same as *Poria viticola* as stated by Fries, if not a species of Europe.—*Polyporus Tulipiferus*, too poor for comments.—*Polyporus viticola*, good specimens.

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<sup>3</sup>As I write this article at Paris from my notes made at Upsala, I do not have with me my notes made in the herbarium of Schweinitz nor of Berkeley, and must trust to my memory, which I think is clear as to these points: that *Polyporus cervinus* is not found at Kew, and only very poor specimens from which nothing can be told at Philadelphia. The specimen at Upsala is in perfect condition.

<sup>4</sup>As a matter of truth the original meanings of *biformis* and *pergamenus* have been transposed since Klotzsch published them. It is a long story and I shall not dwell on it now, for it is of no interest except from an historical standpoint (or perhaps to the name-jugglers). The names *biformis* and *pergamenus* and the plants that bear them are too well established to ever be changed.



*Porothelium lacerum*, a little fragment labeled originally *Boletus Pezizoides*. As far as I have been able to learn thus far there is but one species of *Porothelium* in Europe or America which I would call *fimbriatum*.

**BERKELEY'S SPECIES.**—There are a number of American species of Berkeley's naming in the herbarium of Fries, received mostly from Berkeley, Curtis and Lenormand. At first I was very much puzzled to find many American plants with a *French* label, a handwriting unfamiliar to me, mostly specimens from "Caroline-de-Sud" and indorsed in Th. Fries' writing "Lenormand misit." I had never heard of any such American collector as "Lenormand." Th. Fries tells me that Lenormand resided at Vire, in Normandy, France, when he (Th. Fries) on one occasion visited him.<sup>5</sup> He was not a mycologist but an algologist, and never collected in America. These specimens, though the labels were written by Lenormand, undoubtedly came from Curtis, and I think must have been received by Fries after the publication of *Novae Symbolae*.

Berkeley's own sendings to Fries from America were mostly from Lea, Ohio, and were of special interest to me as the original specimens collected in my own neighborhood. There is a better representation of Lea's Ohio Plants at Upsala than at Kew, and one specimen at least that is not at Kew.

Curtis sent Fries many specimens, mostly though those that have been named by Berkeley. In addition there are a few specimens from Sprague and some from Farlow.

As practically all of Berkeley's American species are known and mostly well represented at Kew and in the Curtis' herbarium at Cambridge, Mass., I will only note here those I found at Upsala that were novelties to me.

*Polyporus dryophilus*.—I was indeed glad to find a good type specimen at Upsala. There is none at Kew or Paris, and I believe this is the only one in existence. It came originally from Lea. Morgan has attempted to fit plants to Berkeley's determination of Lea's specimens, collected at Cincinnati. Morgan referred a collection to *Polyporus dryophilus* and this collection is the one on which, in America, we have based our opinions of this species. As I recall Morgan's plant, it is not the same as the type at Upsala. It is needless to say that Fries' (*Novae Symbolae*) reference of this plant "Ravenel, Mexico," is an error. It should be "Lea, Ohio."

*Polyporus Sartwellii*.—I do not remember seeing this before. It appears to me to be close to a *rigid* *Daedalea unicolor* except that the pores are polyporoid.

*Daedalea pallido-fulva*.—I have seen this plant before at Kew. I can not agree with its reference to synonymy as originally referred by Bresadola (and copied by Murrill). It was correctly interpreted by Morgan, I think. I am acquainted with the plant in its type locality, and it is a good species, though Berkeley has another name for it.

*Polyporus galactinus*.—There is a better specimen at Upsala than at Kew, but I have often collected the fresh plant at Cincinnati. Dried specimens of the plant are always poor. Its relations are entirely with the *Anodermei Carnosi* of Fries, not with the *Hispidi* as stated by Fries, nor with *Spongiosi*, as placed by Murrill.

**AMERICAN SPECIES NAMED BY FRIES.**—These are very few indeed. Most of the American plants that reached Fries had been previously named by Berkeley. The following are all that are given in *Novae Symbolae*.

*Polyporus spectabilis*.—There is a good specimen at Upsala. I agree with Cooke. To me it is a mesopodal *Polyporus Schweinitzii*.

*Polyporus poripes*.—There is no specimen at Upsala. I had expected to find one, as Mr. Murrill visited Upsala and then came home and announced that *flavovirens* was a synonym for *poripes*. I think he got his idea from Ravenel's *exsiccata*, hardly a just way of arriving at Fries species, particularly as Fries describes *poripes* as having white pores, and every one knows that the pores of *flavovirens* are yellow. If I wished to guess at the identity of *poripes*, as Mr. Murrill evidently has done, I should guess the same plant that Underwood described to be a "new species," (*Polyporus retipes*).

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<sup>5</sup> I am told by Monsieur Hariot that the herbarium of Lenormand is now at the Faculté des Sciences de Caén, France.



*Polyporus scruposus*.—I did not find the type, but I believe, as generally held, that *scruposus* is a (marked) form of *gilvus*.

*Polyporus Berkeleyi*.—I found no type, but there is no question as to the species. The co-type (under the name of *Polyporus Anax*) is found in Berkeley's herbarium.

*Polyporus Ravenelii*.—I found no type.

*Polyporus barbatulus*.—I find no type, but a specimen from Lenormand labeled "*Polyporus barbatulus* Fr. (non-*Hexagona sericea*) ad Juniper, Caroline-de-Sud." It is our well known plant on cedar in the southern states. I think it is "*Hexagona sericea*," and I do not know (except habitat) the difference between it and the common *Polystictus pinsitus* of the tropics.

*Trametes lactea*.—I did not find the type, but I think it is well known under many forms and many names.

*Trametes zebrina*.—No type found.

### PHALLOIDS IN THE MUSEUM AT UPSALA.

In alcohol.—There is a very abundant collection made by E. Nyman in Java a number of years ago, but mostly unlabeled. The phalloids of Java are well known now, due to the work of Penzig and Dr. Bernard. The following species are at Upsala:

*Phallus indusiatus*, twelve collections, ten of the usual form with broad pilei and two with slender pilei.

*Phallus irpicoides* (or *Phallus merulinus*, a better name for it), two collections. This is a frequent species in Java.

*Simblum periphragmoides*, five collections. I have heretofore held that the species so frequent in the East Indies which was called *Simblum gracile* was distinct in its much more slender form than the original specimen of *Simblum periphragmoides* from Mauritius. These specimens at Upsala, however, are

some of them obese, and so evidently the same as the original specimen at Kew that I will have to recede from my former view, and as Professor Fischer does, consider them one species.

*Mutinus bambusinus*, one collection.

*Clathrus Treubei*, three collections, two old, with the arms broken apart, as shown in *Myc. Notes*, p. 382, fig. 212.

*Jansia rugosa*, one collection.

There is also at Upsala in alcohol, a specimen of *Aseroe rubra* from New Zealand, collected by G. von Scheele; *Clathrus cancellatus* from Montpellier, France, and ten collections of *Phallus impudicus* by various collectors in Sweden.

Dried specimens.—*Aseroe rubra* from New Zealand, Berggren, and a drawing from the fresh specimens; *Clathrus cancellatus*, Tirol, Bresadola; *Clathrus pusillus*, "New Holland, ex. Berk.;" *Mutinus elegans* from Curtis, and labeled "*Corynites brevis*;" which was a manuscript name for it; *Clathrus cibarius*, New Zealand, Berggren; *Lysurus Gardneri*, co-types, ex. Berkeley; *Macowanites agaricinus*, co-type from Kalchbrenner. (Not usually classed in the phalloids, but to my mind closely related); *Mutinus caninus*, ex. Quelét, France; *Mutinus* (unnamed) Guadeloupe, L'Herminier. (Something curious but unnamed, and I think this specimen unnamable); *Phallus impudicus* Fautrey, France; *Clathrus guttatus*, no specimen but the type drawing from Örsted on which the species was based.

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A DIFFERENCE OF OPINION.—Monsieur Patouillard a publié depuis longtemps et il me l'a d'ailleurs encore confirmé personnellement l'année dernière que le *Polyporus lucidus* a des spores verruqueuses. Atkinson prétend qu'il est victime d'une erreur d'optique et que les spores de ce champignon sont lisses. Je pense que Monsieur Patouillard sera heureux d'apprendre ce qu'Atkinson pense de son opinion sur ce point d'observation microscopique.





Lloyd, C. G. 1909. "Mycological Notes No. 32." *Mycological writings of C. G. Lloyd* 3, 413–424.

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