MYCOLOGICAL NOTES.

BY C. G. LLOYD.

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PROFESSOR W. A. KELLERMAN,

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PROFESSOR W. A. KELLERMAN.

It was a heavy blow that fell on American mycologists at the death of Professor Kellerman. I am afraid there is no one to take up and continue his work.

His earlier years were devoted largely to the microscopic species, and when his career was suddenly cut short he had just begun to get a good start with our larger fungi. Professor Kellerman was perhaps the most energetic and enthusiastic mycologist we had. In fact, he paid the penalty with his life in venturing into a tropical climate in search of material for his favorite study. His death was a severe shock to all of us, for only a few months previous he had left us in the best of health, with hopes of rich additions to his collections.

When Professor Kellerman began the publication, or rather revived the publication of the Journal of Mycology, he succeeded in instilling new life into American mycology. It was largely a labor of love, for I think the publication was never a success from a financial point of view and always drew on his private resources. There are few men so enthusiastic in their work that they are willing to make personal sacrifices in order to carry it on.

OUR LATEST LAWS "BY AUTHORITY."

I was glad to be advised by a special correspondent at Brussels that the recent botanical congress had adopted Fries, with a few exceptions, as a starting point for mycological nomenclature. While I do not believe that nomenclature can be regulated by artificial law, I am personally much gratified that the congress was wise enough to set their disapproval on the flood of cheap date-dictionary juggling so prevalent of late. While it will probably have little effect with this work, as those who have indulged in it are so deep in the mire that they can not extricate themselves, yet if they persist in this course it puts them in the position of being open outlaws and removes the last vestige of the excuse that the work is done under the guise of law.

I have not seen the full text of the Brussels "Laws," and do not know if they contain any "sleepers." I am thoroughly convinced, from what I learned in conversation with mycologists in Europe, that those with whom I talked were earnest in their desire that something be done at Brussels to prevent name juggling, but whether or not they have succeeded is another thing. The name juggler is a natural product of the personal advertisement system in connection with plant names. Probably as long as one exists, so will the other, for they go hand in hand.

Botanical congresses, like political conventions in the United States, are governed by a system of trading, wherein a few wire-pullers in each section direct the matter. Fortunately, from a fungus point of view, the chief pullers in this department (Farlow and Atkinson) had rather same ideas and made a late date (Fries) their starting point. However, the "starting point" in nomenclature of fungi is of about as much practical importance to the student of fungi as is the exact location of the north pole to the average tourist. Still, the later the "legal" starting point the less possibility of "legal" juggling. Therefore mycologists in general have reason to be thankful that Farlow and Atkinson, as well as the others who voted in approval, made their date no earlier. But it scarcely seems fair to our Kuntzeite friends or to those who worship the sacred principles of priority to give them such a hard jolt in the direction of fungi in general, and at the same time except special departments, such as Uredinaceae and Myxomycetes, where the door for name juggling is open back to Adam.

Taking everything together, our "law-makers" did very well, and personally we are grateful that it was no worse.

Our botanical law-makers may be likened to a party of children at play. It amuses them and does no permanent harm (nor good, either, for that matter), as botanical nomenclature is subject to the same laws that govern any language, viz: the rules of use based on fact and evidence. It is useless to try to make artificial rules to regulate the course of natural laws.

THE GENUS THELEPORUS.

This is an unfortunate genus in more than one respect. First, the name is too close to the well-known genus Thelephora, and second, the genus is not of much importance, though it is carried in



Fig. 374 Theleporus cretaceus (x6).

all of our systematic works. The word "thele" means a papilla, and the character of the genus is a papilla in each pore, otherwise the genus is the usual genus Poria. The papillae are very small and can scarcely be seen except when enlarged. We think, however, they can be found in our enlarged photograph if viewed with a magnifying glass. But one species of Theleporus is known, and but one collection, as far as I am aware. This was from South Africa, by Wahlberg, and was named by Fries (Theleporus cretaceus) about sixty years ago. In a few words, it is a Poria with a papilla in each pore. The color is white; otherwise, our figure tells the whole story. The illustration on the opposite page represents Femsjö in the early days of Elias Fries. It has never been published, and was made from an oil painting in the possession of Theodore Fries at Upsala. The house on the left is the house in which Elias Fries was born, and where he lived when he did his early work with fungi. His father was pastor of the church on the right.

Femsjö is located in southern Sweden, and seems to me to be about on the dividing line between the southern and northern regions, so that it embraces the flora of both. Southern Sweden is a rich, rolling, agricultural country. The prevailing wood is beech. Northern Sweden is for the most part a rocky, hilly, sterile region, with a few fertile spots in the valleys, but principally rocks and woods. The prevailing forest trees are pine and spruce, with occasionally a few sections of frondose woods along the lakes. The region at Femsjö is a combination of both these types. The greater part of the forests is of acerous wood, but sandwiched in between are a few large tracts of beech woods. Fries was therefore most fortunately situated at Femsjö to find the fungi that occur in both woods.

From an agricultural point of view, Femsjö is a most barren region, for while the soil is very fertile (that is, what soil there is), the rocks are far more abundant than the soil. Before a field can be prepared for cultivation the rocks have to be removed, or perhaps "quarried" would be a better word. The greater part of the country around Femsjö is in a wild state even to this day, doubtless due to the labor involved in preparing the soil for cultivation. Under these adverse conditions of agriculture, farming means a constant struggle, and such a life develops characters of thrift and economy instead of waste, as in more favored regions. The average American farmer would starve to death on a farm at Femsjö, but the Swedes make good crops—of hay, for example—on a rocky field that would not be considered worth the labor of harvesting in our country.

Fries' father, who was a highly educated man, spent his life as pastor of the little church that vou see in our illustration. Excepting the time he spent in college, Elias Fries lived here during the early years of his life, until the age of forty years, when he was offered a professorship in the University of Upsala and removed with his family to this city. The old church at Femsjö remains practically the same as it was in Fries' time, with the exception of a few minor changes. The old home has been torn down and a new pastor's residence built, scmewhat farther to the left than the building in the picture. In fact, with the exception of the church, the entire surroundings have been so changed as to be scarcely recognizable. I am told by Theodore Fries that this oil painting is a very accurate representation of the surroundings at that time, as he well remembers it when a boy.

As Elias Fries has had more influence on the development of the mycology of Europe than all others combined, with the exception of



Persoon, I think it is quite interesting to put on record a picture of his early environment. My best thanks are due to Professor Theodore Fries, of Upsala, for furnishing the copy from which this illustration is made.

THE GENUS LYCOGALOPSIS.

In my work with the puff balls I have never felt sure of the genus Lycogalopsis. Specimens I have seen so referred I have always thought were immature Lycoperdons. I was therefore greatly pleased to receive from Dr. Chas. Bernard, Java, what I noted at once to be a genus new to me, but which on investigation I find to be the genus Lycogalopsis, as published by Professor Fischer. The value of this genus rests for me on its peridium character. The plant grows on rotting wood and develops on the surface of the wood a thick, white subiculum. The little peridia are produced on this subiculum, or rather, to speak more correctly, from this subiculum as the peridia are simply continuations of the tissue of the subiculum. The peridia are quite thin, and rupture irregularly, and fall away in dehiscence, leaving cupshaped remains in the subiculum, as shown in Fig. 376. It is this peculiar, peridial structure that gives the genus its value to me, as I know no other that is similar. The interior of the puff ball shows nothing very marked. There is no sterile base, and the pale olive gleba, which consists mostly of a mass of spores, fills the interior. The capillitium is very scanty and rudimentary. The spores are globose, pale, smooth, and 4-5 mic. in diameter. The surface of the peridia is smooth and white. This little species came originally from Java and was called Lycogalopsis Solmsii, the generic name, referring to the resemblance of the peridia to those of the common Lycogala.

SOUTH AFRICAN PHALLOIDS.

J. Medley Wood, who has observed the plants of South Africa for many years, favors me with an interesting note on the phalloids. He has noted but three species.

Kalchbrennera corallocephala is the most frequent species.

Phallus indusiatus is not rare, yet is not as frequent as the preceding.

Lysurus Woodii is extremely rare and in more than fifty years' observation Mr. Wood has met it but once. The only collection was made in one place not more than three or four yards in extent. Mr. Wood has searched for it in the same locality since, but never found it again. I do not believe the whole story of South African phalloids has yet been told. Not long ago I saw in one of the museums a dried specimen, recently collected by S. T. Saxton, Cape Town, and while I can not tell much from such a specimen, it is surely some species both unique and unnamed.



Fig. 376 Lycogalopsis Solmsii $\langle x 6 \rangle.$

JANSIA TRUNCATA.

By D. McAlpine.

Volva creamy white, somewhat cup-shaped, slightly longer than broad, averaging three-fourths inch in length, irregularly split at margin, narrowing towards base, and provided generally with one or two slender, thread-like roots, which branch considerably in the humus.



Fig. 377.

Jansia truncata. Showing: 1st, natural size; 2d, enlarged; 3d, the cellular structure of the inner face enlarged. Photographs all from Professor D. McAlpine.

Stem arising in the gelatinous matter contained in the volva, and easily detached, cylindrical, hollow, whitish at base, but gradually passing into a salmon-pink, the surface marked out into small polygonal areas by shallow depressions.

Receptacle a direct continuation of the stem, but sharply distinguished by its deep, dark crimson color and surface, roughened by a raised, irregular network, with meshes variable. The convolutions are shown clearly in the photograph. It tapers slightly towards apex, where it terminates in a distinct circular opening.

Gleba olivaceous, in slimy masses, scattered over the entire receptacle.

Spores very minute, hyaline, ellipsoid, with distinct contents, 3 to $3^{1/2}$ mic. long.

Over thirty specimens were found on a buffalo grass lawn in front of my house near Melbourne. They first appeared on the 27th of March, 1910, and an occasional one afterwards up to the 31st of March. They are very fragile and soon collapse. When fresh, the smell could hardly be described as disagreeable, since it reminds one strongly of scorched linen, the burnt smell caused by a hot iron. The height was commonly 2³/₄ to 3 inches, and in the latter case the relative lengths of the different parts were: volva, ³/₄ inch; stem, 1¹/₄ inch; receptacle, 1 inch. Occasionally one or two "eggs" at different stages of development were found attached to the mycelium of the volva.

We are pleased to publish the above description and photograph of a species of Jansia, received from Professor McAlpine. Our first impression was that it was absolutely distinct from anything known, in having a truncate, perforate apex. Since this article has been in type we have received specimens in alcohol of Jansia rugosa, through the kindness of Dr. Ch. Bernard, Java, and on comparing them with the alcoholic specimen received from Professor McAlpine, we find that Jansia rugosa does have a perforate apex though it is contracted and has not been noted by me in my previous accounts of this species. There is, therefore, no real difference between Jansia truncata and Jansia rugosa on which a species may be based, but the Australian plant is so much larger and more robust and its truncate apex is so much more prominent that it is well entitled to a name as a form. Since like many phalloids it proves of wide distribution, it is probable that many of

Since like many phalloids it proves of wide distribution, it is probable that many of the vague references of early phalloid literature should belong here; as for instance, Mutinus proximus of Ceylon; perhaps Mutinus boninensis of Japan, Mutinus borneensis of Borneo, and probably Mutinus minimus of China. The past work with the phalloids has been so vaguely and inaccurately done that the identity of many of them is at best little more than a guess.—C. G. L.



Fig. 378. Kodak snapshot. Three French "mycologues" at Upsala. 485

DIRECTIONS FOR MAKING A MUSEUM OF FUNGI.

The method of preserving the larger fungi, such as the Polyporei, has changed somewhat in recent years from that formerly employed. In the museums of Europe for the most part, as at Kew, Paris, and Upsala, the specimens are glued down to sheets, somewhat after the same plan used in making a herbarium of dried, flowering plants. While this method has advantages, such as compactness, it has disadvantages that more than offset the advantages. It is evident that all that can be preserved of a large specimen in this manner is a thin slice which often gives a very inadequate idea of the species. In the modern museums, such as the Lloyd Museum at Cincinnati and the New York Botanical Gardens, these specimens are preserved in boxes in their natural condition, each specimen in a separate box. The boxes are made in different sizes in order to accommodate the various specimens, but the sizes run in sets so they can be piled together in compact piles without regard to the different sizes of the boxes. In the Lloyd Museum the original sizes of the boxes were based on the shelving. The following are the standard sizes we use in our museum. The measurements are in millimeters, and the last represents the height of the box with the cover on.

No. ¹/₂. 70 x 64 x 22 mm. No. 1. 70 x 64 x 44 mm. No. 2. 70 x 64 x 88 mm. No. 3. 70 x 128 x 88 mm. No. 4. 140 x 128 x 88 mm. No. 5. 140 x 128 x 176 mm. No. 6. 140 x 256 x 176 mm.

We strongly advise these who wish to make a collection of fungi to adopt a series of boxes, the sizes running by units as the above, as then all the various sizes can be piled compactly. The sizes that we have adopted take care of almost any size or shape of fungus that we receive, and in practical use we find that the greater part of them are put in boxes No. $\frac{1}{2}$ or No. 1.

Preservation of Specimens.

Pcisoning specimens.-The principal trouble that many have in making collections of fungi is that specimens are apt to be eaten by insects. This is very discouraging, but we have learned now how to avoid it in a very simple manner. In the old collections where specimens are pasted on sheets they have to be poisoned with a solution of corrosive sublimate and alcohol, but this is very objectionable from the fact that it changes materially the condition of the specimens and they are not in their natural condition after going through the poisoning process. It was formerly my custom when I received specimens to submit them to the fumes of carbon bisulphide, which is fatal to insect life, but I have found that while it may kill the insects in the specimens it does not kill the chrysalis, and specimens submitted to the fumes may have chrysalides which will hatch out and eventually destroy the specimen. I learned from Mr. Romell of Stockholm a very simple process which is as inexpensive as it is effectual for specimens that are preserved in boxes, but of course does not apply to specimens pasted on sheets. Simply put in each box a liberal quantity of flake naphthalene. For boxes the size of No. $\frac{1}{2}$ and No. I a teaspoonful, and for larger boxes a larger quantity in proportion. Flake naphthalene does not affect the specimens at all, but it kills the insects, not only these that may be in the plant, but those that develop afterwards. I have recently gone through our private collection of some ten thousand specimens or more and dumped into each box a sufficient quantity of this flake naphthalene. I do not anticipate there will ever be any trouble in future with insects in my collection. insects in my collection. Flake naphthalene is comparatively inexpensive, and two or three pounds will take care of two or three hundred specimens. It costs about fifteen cents per pound.

THE GENUS CYCLOMYCES.

This genus is based on the concentric disposition of the pores. With the exception of a few on the outer circles, they take a lamellate form and then the genus can be briefly characterized as being Lenzites with the lamellae concentric instead of radiate. It is a rare genus, occurring only as far as known in the United States, the East Indies, and African Islands. The genus was first described by Fries¹³ in 1830, and a fairly good cut given of it.¹⁴ It consists (as I believe) of only two species, Cyclomyces fuscus and Cyclomyces Greenii. These two species have different context and are put in different genera by those who give preference to other than hymenial characters.¹⁵ The curious, concentric disposition of the pores (and lamellae) is a very prominent and seems to me to be a good character on which to base a genus.



Fig 379

Cyclomyces fuscus (Natural Size).

CYCLOMYCES FUSCUS (Fig. 379).—Pileus dimidiate (or sometimes scutellate), thin, coriaceous. Surface dark brown, velutinate

¹³ The name usually attached to it is Kunze, Fries having taken the name from a manuscript label from Kunze, Berlin. The specimen came, I think, from Telfaire, Mauritius, at least abundant material is at Kew from this source, and also on the same sheet a co-type "Cyclomyces fusea, of G. Kunze. Mauritius, Sieber (Exs.)." Telfaire specimen is labeled "Laxophyllum velutinum, Klotzsch."

¹⁴ It can hardly be said to be correctly described, however, as he states "Asci immersed, not free, as in Polyporus."

¹⁵ In brief, Cyclomyces fuscus has abundant, colored setae and hyaline spores, and is epixylous. Cyclomyces Greenii has no setae and colored spores, and grows in the ground. This was first pointed out by Patouillard, but was appropriated and juggled by Murrill.

with fine hairs, sulcate zonate. Gills narrow, close, concolorous, *concentric*, usually with cross partitions forming pores near the margin, furnished with abundant colored setae (of the Hymenochaete type). Spores (said to be) colorless, globose.

This plant was originally from Mauritius, but has since been found abundantly in the East. There are specimens at Kew from Mauritius (abundant) India (Perak), Malay, and Sarawak. It is also recorded from Java, and is evidently a frequent plant through the East. It occurs also in Madagascar.¹⁶ and the Philippines. The two following, I think, are synonyms: Cyclomyces Beccarianus, from Sarawak, of which I have seen a co-type, identically the same; Cyclomyces stereoides, of which I know only the description, but do not question it was based on a scutellate specimen. It came from the same region and the "description" was practically the same.



Fig. 380

Cyclomyces Greenii (Specimen from E. B. Sterling).

CYCLOMYCES GREENII (Fig. 380).—This characteristic plant hardly needs any description other than our figure. As there is no other plant in the United States with such a disposition of the gills, it can not possibly be mistaken. The color is ferruginous, the

¹⁶I have recently seen at the British Museum a specimen in a German exsiccatae from Madagascar. It is absolutely the same as the Mauritian and Indian plant. However, every time a plant is found in a new locality it has to have a new name of some kind, so the author calls it "var. Madagascariensis."

texture soft, spongy, the surface velvety. In its color and context nature it is very much the same as Polystictus tomentosus. There are no setae on the gills, however. The spores are smooth, colored, elliptical, 6 x 12 mic. It has a short, velvety stem, usually central, though I have rarely seen excentric specimens.



Fig. 382

omyces turbinatus (Drawing by Patouillard).

Cyclomyces Greenii (Photograph by Prof. Beardslee).

2011-11-1- Samuel

HISTORY.—This plant was found by Berkeley in Hooker's herbarium. The specimen came from B. D. Greene, Tewkesbury, Massachusetts.¹⁷ It was of much interest to Berkeley as the second known species of the genus. He gave a good figure of it (by Fitch), and the plant has never had a synonym,

¹⁷ Who B. D. Greene was I do not know, excepting that this species was named for him. Neither do I know who named it, though Berkeley published it. The original label in Hooker's herbarium is in a writing I do not recognize, "Cyclomyces Greenii, Boston, U. S., B. D. Greene." It was published from Tewkesbury, Mass. As far as I have noted, this is the only plant sent to Kew from "B. D. Greene."

unless the Indian species is a synonym. There is also a specimen at Kew from Sprague, Mass. Professor Peck found the plant on two occasions and speke of it as being rare, so that it has that reputation in the United States. Most of the specimens come from the Eastern States. I have the following: from Massachusetts, Simon Davis, Mrs. E. B. Blackford. and Hollis Webster; New Jersey, E. B. Sterling; Maryland, W. T. Lakin; Pennsylvania, Mrs. Geo. M. Dallas, Charles McIlvaine, and Dr. Herbst. I have never found it in Ohio, although reported by Hard and Beardslee. I have a photograph from Iowa, Macbride. Our illustration is made from a photograph by Professor Beardslee, and from a specimen from E. B. Sterling.

RELATED SPECIES.

CYCLOMYCES TURBINATUS (Fig. 381).—This species is based on two little, undeveloped specimens in Hooker's herbarium, from India, many years ago. They seem to have the same color, context, spores, and other characters as Cyclomyces Greenii, but differ slightly in shape, being as the name indicates more conical or turbinate. I think it will prove to be practically the same species as our American plant. Additional specimens reached Paris from Java and were called Cyclomyces Javanicus. A good account and illustration of it was given. I feel so convinced that it is the same as the Indian species (only better developed specimens) that I use the illustration.

A POLYPORUS THAT WEEPS.

The splendid photograph that we present on the opposite page was taken by Professor G. D. Smith. I know no other who makes as good fungus photographs as Professor Smith.

The subject is Polyporus dryadeus, and it is a very rare plant in the United States. When I received the photograph I referred it to Polyporus resinosus,¹⁹ as this was the only species I had observed in the United States that weeps so abundantly. When later Professor Smith sent me the specimen I found, on comparison, it was Polyporus dryadeus of Europe. I had not previously known this species to occur in the United States.²⁰ I had never before seen an American specimen, but I had observed the fresh plant in France and found, on comparison, that Professor Smith's specimen was the same as my European specimens.

Polyporus dryadeus is not a common plant in Europe,²¹ and grows

¹⁹ I use this name in the sense in which it has always been used in America by Berkeley, Ellis, Morgan, and others, and it appears to be in the sense of Fries' description. But I am not satisfied with it. I do not know the plant in Europe, and besides it was most assured'y not resinosus, of Schrader, where Fries got the name. Fuliginosus is the latest allegation (copied from Bresadola), and while it is a very early date, the plant to which it was applied in Europe is quite different from our American plant in several respects. Our plant is surely a different variety, if not a different species.

²⁰ I am aware that it is included in North American Flora, but as the author did not mention it when he wrote his account of the "genus," four years previously, I thought perhaps it had been introduced since. Or possibly he had in the meantime seen Schweinitz's record, not knowing that this was based on Polyporus gilvus. He also seems to have been very careless in his compilations. He copies Fries' citation, Hussey, plate 26, which was an error for plate 21. He ascribes the pedigree to "Polyporus dryadeus, Fries, Syst. 1821," and there Fries states that he took the name from Persoon Obs. (1799). Had he looked up Persoon he would have found that Persoon changed Bulliard's name pseudo-igniarius (1784), which is contrary to the dictum of Mr. Kuntze and the sacred precepts of priority. As I can not believe that the author would intentionally disregard these sacred principles, I must therefore escribe it to very careless compilation. If he had looked up Schroeter's work he would have found that Schroeter had already juggled it to Bulliard's name.

²¹ It is more common in England, France, and Central Europe, but very rare in Sweden. Fries records it in an early work, but in his latest states he has only seen dried specimens. Mr. Rome'l has recently collected it near Stockholm.



Polymorns dry

only on oak. It is noted for its rapid growth and the drops of water that exude so abundantly from it in a growing state. Bulliard gave a good illustration of it, showing these water drops, and commented on them. Mrs. Hussey has also illustrated it, but her figure is not as good as Bulliard's.

The plant that Professor Smith found grew on elm, and that was one reason that led me at first to question my determination. In Europe it is only known on oak.

We have a Polyporus in the United States, a common one, Polyporus resinosus (in the usual sense), that has the habit of exuding drops of water from the growing plant. I have often noticed it, but never saw so many tears as shown on Professor Smith's photograph.

WHAT A LONG TAIL OUR CAT DOES HAVE!

We present a photograph of the type material, all that exists, of "Polyporus phaeoxanthus," and a copy of the wonderful story that ap-



peared about it in North American Flora. The modern mycologist is something of a paleontologist. He can take a little frustule and build upon it an elaborate account that will rival the most extravagant romance of Baron Munchausen, and which is just about as true.

Fig. 384.

"Pileus convex, subhemispherical, 2.5 x 0.5 cm.; surface smooth, glabrous, bay-brown, margin acute, straight,

slightly undulate; context fleshy, luteous, rigid, friable, and much shrunken when dry, I to 2 mm. thick; tubes remote, minute, very short, 0.5 mm. or less in length, mouths irregular, 6 to 8 to a mm., edges thick (specimen young), obtuse, luteous; spores not examined; stipe central, cylindrical, solid, fleshy, concolorous, floccose at the base, 4 cm. long, 3 mm. thick. Type locality: Columbus, Ohio. Habitat: Fallen oak wood. Distribution: Known only from the type locality."

Some one has kindly sent us the following clipping taken from a newspaper:

"Wilm Knox, of the firm of Knox and Elliott, architects of the Rockefeller and other noble buildings, is one of the best known micrologists in the world. It is said, indeed, that with the exception of Ashley Lloyd, of Cincinnati, Mr. Knox is the best authority on mushrooms in this or any other country. He is constantly experimenting with these delicacies, and has produced hitherto unknown varieties that are almost intoxicating in the richness of their flavor. He can, just by glancing at a mushroom of any shape, color, or size, give its complete history and its 'ranking' among the almost countless varieties of this favorite of the epicures."

We judge the above must have been written by the sporting editor. The statement that Mr. Knox is a "micrologist" and "has produced hitherto unknown varieties that are almost intoxicating in the richness of their flavor" is characteristic of the usual reporter's account. Also the reference to Ashley Lloyd in connection with "mushrooms" is amusing. He takes a great deal more interest in "three-base hits" than he does in mushrooms.



Lloyd, C. G. 1910. "Mycological Notes No. 36." *Mycological writings of C. G. Lloyd* 3, 477–492.

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