

## LETTER No. 46.

### FOREIGN STEREUMS IN OUR MUSEUM.

(By C. G. Lloyd, written at Kew, April, 1913.)

We have received in the past from foreign correspondents quite a number of Stereums which we were unable to name, as we were only familiar with the species of Europe and United States. We have spent a couple of months at Kew, studying there the rich collection of foreign species, and comparing our specimens, and have since worked over the specimens at Leiden, Berlin, and Paris.

We take the genus *Stereum* in the original Friesian sense, but would modify it to include the species with hyaline spores. It is quite difficult to decide what distinction the old mycologists made between *Stereum* and *Thelephora*. We would restrict *Stereum* to those species that have hyaline spores, and *Thelephora* to those with colored, angular spores. While this is a microscopic distinction and as a general rule we do not favor basing genera on such differences, it is a practical division and the genera can be recognized by the eye: There are very few species of *Thelephora* in the tropics under this definition.

The genus *Stereum* can be broken up in several ways, we think to not much advantage. Patouillard considers the stipitate species as forming a genus, but we can not see why a stipe in *Stereum* is of more importance than a stipe in *Polyporus*, which he does not divide on this character. There are various types of "hairs," (or cystidia as they are called), and Lévillé, Cooke, and others would form genera on these hairs. In practice it will be found to be very much of a "hair-splitting proposition," for there are half a dozen different types of hairs and they grade into each other so it is impossible to draw a line between the different genera if they are based on these "hairs." Besides, the same hairs have as much value theoretically in all other groups, for Agarics, Hydnums, Polypores, and even Tremellaceae have these hairs, and no one ever attempts to make genera on them excepting in the Thelephoraceae.

While "hairs" on the hymenium may be a convenient character to subdivide the excessively numerous, resupinate species, which otherwise afford few characters to group into sections or "genera," like everything else that is good in moderation, it has been carried to excess by recent writers. Particularly by von Hohnel, who bases a "new genus" (and adds "von Hohnel" to each species) on every shape, size, exudation, coloration, and position of hairs that he finds on the hymenium.

The genus *Stereum* is not so large that it is necessary to resort to any such strategy, and it is much simpler and better in my opinion to take *Stereum* in its generally accepted use and meaning. The genera *Peniophora* and *Hymenochaete* in the sense of Cooke (in part) and the recent genus *Lloydella* have little value for me.



We append a list of Foreign species of *Stereum* received in the past, and which we have been enabled to name at Kew.

Kew, April, 1913.

C. G. LLOYD.

### STIPITATE SPECIES.

*STEREUM AURANTIACUM*. This was one of the first foreign species named by Persoon, and the only yellow, stipitate species I have seen. Specimens from:

Brazil—Anna Brockes.

Samoa—C. G. Lloyd.

*STEREUM ELEGANS*. A frequent species in the tropics, growing caespitose in earth with irregular, infundibuliform, confluent pilei. Specimens from:

Australia—F. M. Reader, J. T. Paul, Edmund Jarvis, W. R. Guile, A. G. Hamilton, Miss E. J. Turner.

India—Donor unknown.

Ceylon—T. Petch.

Jamaica—Wm. Cradwick.

*STEREUM FLORIFORMIS*. Similar to *elegans*, but thicker, more spathulate. Specimens from:

Africa—Dr. G. Zenker.

India—G. A. Gammie.

*STEREUM PUSILLUM*. A little, infundibuliform species, growing in ground. Only type in British Museum. Specimen from:

Philippines—James G. Brown.

*STEREUM SURINAMENSE*. A bay-brown, infundibuliform species growing on wood. Very common in the tropics and usually misreferred to *Stereum elegans*, from which it differs in habits. A single specimen was named *fulvo-nitens* by Berkeley, from the West Indies, but usually Berkeley referred it as others do to *Stereum elegans*. Specimen from my own collection, Samoa.

*STEREUM INVOLUTUM* (Lloydella). This species seems quite variable, but can be recognized by a peculiar, smooth, waxy, reddish-bay hymenium. A section shows metuloids. It is not truly stipitate, but attached by a reduced base. I have specimens from:

New Caledonia—Museum at Paris.

Samoa—C. G. Lloyd.

Java—C. B. Ussher.

*STEREUM MIQUELIANUM*. A little infundibuliform species grown on wood. No type found by me, but I believe the same as found at Kew from Brazil under the (mss.) name *Stereum Trailii*. Specimens from:

Congo, Africa—Rev. J. Gillet.

*STEREUM CAPERATUM*. A frequent plant in the tropics and occurs in Southern United States. It is intermediate between the genera *Stereum* and *Cladoderris*, and by some is classed in the latter genus. It could also be classed as "Lloydella."



New Caledonia—Museum at Paris.

Samoa—C. G. Lloyd.

Southern United States—Several.

### SECTION APUS.

**STEREUM LOBATUM.** The most common Stereum in the tropics with brown pubescence and frequently zoned with smoother, deeper, brown zones. Stereum fasciatum, essentially the same plant in temperate regions, has gray pubescence, but the color is due I believe to climatic conditions.

Tropical America—A. Hempel, Brazil.

New Zealand—S. Duncan (also form with appressed pubescence).

Australia—J. T. Paul (also form with yellowish hymenium), James Wilson, Donor unknown.

Africa—W. T. Saxton, Ed. Luja, Miss A. V. Duthie, I. B. Pole Evans, Dr. H. Becker.

Madagascar—Henri Perrier de la Bathie.

Mauritius—P. Koenig.

Ceylon—Prof. T. Petch (sent as *S. ostrea*).

Java—J. P. Mousset.

Mexico—Dr. Sylvias J. Bonansea.

India—H. Val. Ryan.

**STEREUM LOBATUM**, *lobed form*. Notwithstanding its name, Stereum lobatum is usually entire. I have a strongly lobed form from Henri Perrier de la Bathie, Madagascar. On scraping it this does turn a little red (a tendency towards *S. spadiceum*) but I find no "lactiferous ducts" in a section, and feel it is at best a form of *S. lobatum*.

**STEREUM LOBATUM** *with cinereous hymenium*. From Africa (only) I received a plant which appears in all respects to be same as lobatum (or color closer to fasciatum) but it has decidedly cinereous hymenium. I have not found it in any museum named as a "species," which is rather strange.

South Africa—I. B. Pole Evans, W. J. Newberry.

Congo—Dr. G. Zenker.

Mauritius—C. A. O'Connor.

**STEREUM FASCIATUM.** As previously stated, I can only make it the temperate region form of Stereum lobatum with no real difference. I have been puzzled for years whether it should be called Stereum fasciatum as Schweinitz unquestionably named it, or Stereum versicolor as Ellis always determined it, attributed to Swartz. I have looked up the types of the latter in the British Museum in previous years but was not able to convince myself. After working two months at Kew on Stereums, I feel better able to pass on species, and on revisiting the British Museum I find the type of Stereum versicolor to be the same as Stereum radians, (which is authentic at Kew), a species of the tropics quite close, but *smoother* than Stereum fasciatum. The name Stereum versicolor, so frequently misapplied to this common plant in the United States, is due to Ellis, not Berkeley, to whom I formerly attributed it. Berkeley's specimens are mostly correctly referred to as Stereum fasciatum. We have



very many specimens of *Stereum fasciatum* from the United States, and the following from foreign countries:

Argentina—Leon Castillon.

Japan—J. Umemura, A. Yasuda.

**STEREUM HIRSUTUM.** A frequent plant in Europe, but mostly replaced in the United States by *Stereum complicatum*. The hymenium is yellow in Europe, often turning cinereous when old, but judging from my foreign collection it persists as yellow in Australia and South Africa.

Australia—H. B. Williamson, Miss E. J. Turner, Miss Ellen I. Benham, W. R. Guilfoyle.

South Africa—Miss A. V. Duthie, W. J. Newberry, Dr. H. Becker.

Madagascar—Henri Perrier de la Bathie.

**STEREUM HIRSUTUM**, *form* with clear, yellow hymenium and pale (almost white) pubescence.

South Africa—I. B. Pole Evans.

**STEREUM VELLEREUM.** This is quite close to *hirsutum*. The hairs are of the same nature but are always pale. Hymenium also pale (never yellow). It seems quite common in Australia and South Africa. I have it also from Japan and I believe Northwest Canada.

Australia—W. R. Guilfoyle, Edmund Jarvis.

Japan—J. Umemura.

Madagascar—Henri Perrier de la Bathie.

South Africa—I. B. Pole Evans.

**STEREUM RIMOSUM.** This species has a soft, mottled, tomentose pad-like covering to the pileus, and a thick, white hymenium which becomes cinereous and often cracked in old specimens. Specimens from:

Madagascar—Henri Perrier de la Bathie.

South Africa—I. B. Pole Evans.

**STEREUM NEO-CALEDONICUM**, cotype.

New Caledonia—Ex. Mus. Paris.

**STEREUM CYPHELLOIDES.** Very smooth, pure white, spathulate. Specimens from:

Madagascar—Henri Perrier de la Bathie.

**STEREUM PRINCEPS.** Thick, rigid, a frequent species in the East.

Japan—M. T. Yoshinaga.

Java—Dr. J. C. Koningsberger.

**STEREUM LEVEILLEANUM.** A most peculiar species as to color, Vandyke red. It has a velutinate hymenium of projecting hyphae, not specialized, hence I do not know whether it is a "*Lloydella*" or not.

Argentina—Leon Castillon.

**STEREUM SPECTABILE.** This has "dendrophytes" hence must be a "new genus" I suppose. It is the only named species (except *frustulosum*) with which I am familiar with "dendrophytes." The type specimen is at Berlin, but the species is mostly represented in the museums by one of Roumegères' *exsiccata*, and what is the strangest part about it is this number of the *exsiccata* is correctly named.

Australia—Miss Margaret Flockton.



STEREUM SIMULANS. The types from Australia are in British Museum. I did not examine a section, but I do not question that a plant I collected abundantly in Samoa should be so referred, notwithstanding that my plant was glabrous, and simulans was said to be tomentose.

It is a rigid (but rather thin) species with a smooth, brown, zoned pileus, *yellowish* context, and hymenium bleeds on being scratched. It is quite close to *Stereum subpileatum*, in fact, might be held as a variety.

Samoa—C. G. Lloyd.

STEREUM MEMBRANACEUM. This is a "Lloydella" *Stereum* with a dark, purplish hymenium, quite common in the tropics and usually referred to *papyrinum*, which is a synonym. It is of much softer context than most *Stereums*. No authentic specimen of *membranaceum* has been seen by me, but it is said to be same as *papyrinum*, so common in the museums under various names, and the description justifies this conclusion.

Various collections found in Montagne's herbarium determined as *Stereum membranaceum*, are surely same as Montagne afterwards named *Stereum papyrinum*.

Nicaragua and Mexico—C. T. Smith.

Bahamas—L. J. K. Brace.

Bengal—S. Hutchings.

Brazil—Anna Brookes.

STEREUM PERCOME. This is a "Fauxlloydella" with cystidia, not metuloids. It was originally from Japan. *Stereum latum* is the same to the eye, but a "Lloydella" with typical metuloids. I expect in time they will prove to be the same species, for I doubt if the "hair" characters of *Thelephoraceae* are always uniformly the same.

New Caledonia—from Mus. Paris, (labeled *S. latum*).

India—Donor unknown.

STEREUM BICOLOR (*Lloydella*). Same as in Europe and United States.

South Africa—W. J. Newberry.

Japan—A. Yasuda.

STEREUM BICOLOR? These specimens are thinner and the contrast of color is not so great as in the European plant. Same section however, and same metuloids. This collection has been named for me *Stereum Beyrichii*, but is surely not same plant as I have seen so noted elsewhere which "wants the cystidia which are present in *bicolor*."

Samoa—C. G. Lloyd.

STEREUM FERREUM, Smith's collection in Mexico, Nos. 98 and 147, as named by Ellis. Compared with the type at Kew and found to be correctly named. The types are resupinate, hence so placed in our literature. Mr. Smith's collection is distinctly pileate. It is a "Lloydella."

### SECTION HYMENOAETE.

This which is a "genus" for various authors is for me at best a section, and not a very good one at that, for while in many species the "hairs" are typically those of *Hymenochaete*, in *Stereum luteo-badium* and others, they merge into "Lloydella" through various connecting forms and colors.



Besides as the genus *Stereum* was *originally based on these hairs*, it is only a question of a juggle to rename all *Hymenochaete* species as *Stereum* and all (other) *Stereums* as something else. The jugglers do not seem to have as yet discovered this.

**STEREUM VILLOSUM.** This species of the East is the analogue of our *Stereum tabacinum*. Lévillé gave it two or three different names and Berkeley also. The normal color is the same as that of *Stereum tabacinum*, but it takes what for me is a dark form (fuliginous) and was called *Stereum adustum* by Lévillé. Specimen from:

Java—J. P. Mousset.

**STEREUM DAMAECORNE.** A frequent and quite variable species of the American tropics, but unknown elsewhere. It varies from simple, reniform pilei to pinnatifid, multiplex in the same collection. Naturally it has several names, but they are of no value in my opinion, even as to forms. It is the only stipitate species known in the section *Hymenochaete*. Specimen from:

Brazil—Gustavo Peckolt.

**STEREUM LUTEO-BADIUM.** This species has had quite a complicated history. Kunze first named it from Weigelt exsic. from Surinam "*Thelephora badia* Hook." Hooker had previously named a *Thelephora badia* from South America, and while he never did much with fungi, he apparently did not like the determination of Kunze and published and figured both species (*Bot. Misc.*, 1831) and changed Kunze's name to *Thelephora Kunzei*. Saccardo seems to have overlooked both the name and the figure. A year previously, however, Fries had published in *Linnaea* the Weigelt exsiccatae specimen as *Thelephora luteo-badia*, which being a good name for it we adopt. It is quite a strongly marked species in having the color of the hymenium yellowish, differing from the *tabacinus* color of the pileus. It is not a "typical" *Hymenochaete* for the hairs of the hymenium are also yellowish, not deep red-bay as in the usual species. Still as "hairs" vary in color from very slight traces of color in some species to the intense deep color of *Hymenochaete*, I do not know where to draw the line between "*Lloydella*" and "*Hymenochaete*." *Stereum luteo-badium* seems fairly common in tropical America. We have specimens from Anna Brockes and Gustavo Peckolt, both from Brazil.

**STEREUM TENUISSIMUM.** Thinner and with fewer setae, but for me very much the same species as *tabacinum* of Europe. Specimens from:

Africa—Hyac. Vanderyst.

Brazil—Dr. Anna Brockes.

**STEREUM ATTENUATUM.**—This is quite a thin little species, the smallest known. Excepting as to size, however, it is about the same as the preceding. Specimens from:

Japan—A. Yasuda.

#### PSEUDO THELEPHORACEAE.

**PHLEBIA STRIGOSO-ZONATA** (*Auricularia strigoso-zonata* Schw. McG.). It develops that there is a widely distributed plant through the world which has the general texture and appearance of a *Stereum* but



a section appears quite different under the microscope. I notice that Bresadola has recently determined it to have "cylindrical, subclavate basidia 4-5 x 30-35" and puts it in the genus *Auricularia*, calling it *Auricularia reflexa*. I think it should not be included in *Auricularia* as it does not have the soft, gelatinous texture that we associate with the Tremellaceae. It reached Berkeley abundantly from Australia and he gave it two names, *Phlebia reflexa* and *Phlebia hispidula*, and Cooke called it *Stereum lugubre*. I think Cooke must have known that his *Stereum lugubre* was the same as *Phlebia reflexa* for he named other specimens of same collection *Phlebia reflexa* and kept all in the same cover. Subsequently Massee discovered that it was a "new species" and called it *Auricularia Butleri*. In addition, Bresadola cites *Phlebia rugosissima* Lév. and *Auricularia sordescens* Ces. as synonyms. But exactly the same plant occurs in the United States and we have our contributions to offer to this interesting collection of discoveries, and one of them is said to be the "prioriest" of all. Schweinitz named it *Merulius strigoso-zonatus*, which seems to have been skipped in Saccardo's compilation. Peck called it *Phlebia pileata*, and Berkeley in addition to the name he gave it from Australia called it from the United States *Phlebia rubiginosa* and *Phlebia zonata*. It will be noted that most of our discoverers put it in the genus *Phlebia*, and this genus (excepting as to basidia which have not been shown to be different) is where it belongs on its hymenial configuration when fresh. In drying, the folds and wrinkles largely disappear, but the hymenium is usually uneven and ridged in the dried specimens. We could never see why *Phlebia* however is classed in Hydnaceae. To our minds it should go in the Thelephoraceae.

When fresh the plant has a reddish-brown hymenium becoming very dark (almost black) in the dried specimens. When soaked up a section shows a uniform, homogeneous, compact tissue without a distinct, hymenial layer. According to my notes, I suspected that the plant did not have ordinary basidia before that fact was published.

In addition to the interesting mistakes that have been made in naming it, its distribution is next of interest. I have seen it from the United States, Japan, Philippines, Java, Australia, and Africa, but it appears to be absent from Europe. We have several collections from United States, and the following from foreign countries:

Australia—H. B. Williamson and Edmund Jarvis.

Madagascar—Henri Perrier de la Bathie.

Japan—Prof. A. Yasuda.

## SPECIMENS THAT I DID NOT FIND NAMED IN THE MUSEUMS.

I have little doubt that the following are unnamed species, at least I have not found them in any of the museums. I would not wish to publish them as such, however, until I have given the Stereums further investigation.

No. 1.—Species common in Australia, which Berkeley referred to albo-badium of United States. Similar as to color but very different as to "structure." The Australian plant has "dendrophytes." I have specimens from Miss E. J. Turner, Rev. James Wilson, Edmund Jarvis, and Albert Green, all from Australia.



No. 2.—Similar as to appearance to No. 1, but also different structure. This is a "Lloydella."

Caversham, N. Z.—W. A. Scarfe.

No. 3.—Similar in color and appearance to *Stereum ochraceo-flavum* of United States, and so named when received. I find it has "metuloids" however, and is a "Lloydella," which *ochraceo-flavum* has not.

Hawaii—C. N. Forbes.

No. 4.—Beautiful white species from unknown donor, India, with coarse, strigose fibers. I know none at all similar.

No. 5.—Specimen from Botanical Garden, Saharanpur, India, which was named for me "*Stereum duriusculum* Berk." but which I find to have no resemblance whatever to the type.

No. 6.—Species with hymenium that reddens, but pileus surface like *sericeum*. Referred by me to *spadicea* when received, but evidently different.

Japan (two collections)—Jintaro Umemura.

No. 7.—Close to *Stereum spadiceum*.

Madagascar—Henri Perrier de la Bathie.

No. 8.—Very close to *Stereum cinerascens* (Lloydella). Differs in brown tomentum on pileus.

Java—J. P. Mousset.

No. 9.—*Stereum* determined as *Stereum spadiceum* when received. Hymenium clear yellow, reddening on being scratched, but no "lactiferous ducts" found. Color *light*, tawny, much lighter than *spadiceum*.

South Africa—I. B. Pole Evans.

#### STIPITATE.

No. 10.—Stipitate, infundibuliform, pale brown lobed or incised. Surface striate, fibrillose.

Japan—A. Yasuda.

No. 11.—Stipitate, white when fresh, close to *decolorans* but not same on comparison. I gathered it in Samoa.

#### SECTION HYMENOGAETHE.

No. 12.—Sessile, with narrow, concentric zones, of appressed pubescence. Color and setae same as usual in this section. Specimen from:

Japan—A. Yasuda.

#### ADVERTISEMENTS.

The following personal names can be added to the foregoing plant names by those who believe in this style of advertisement.

*Stereum attenuatum*, Lévillé; *aurantiacum*, Persoon; *bicolor*, Persoon; *caperatum*, Montagne; *cyphelloides*, Berkeley; *Damaecorne*, Link; *elegans*, Meyer; *fasciatum*, Schweinitz; *ferreum*, Berkeley; *floriformis*, Bresadola; *hirsutum*, Willdenow; *involutum*, Klotzsch; *Leveilleanum*, Berkeley; *lobatum*, Swartz; *luteo-badium*, Fries; *membranaceum*, Fries; *Miquelianum*, Montagne; *Neo-caledonicum*, Patouillard; *percome*, Berkeley; *princeps*, Junghuhn; *pusillum*, Berkeley; *rimosum*, Berkeley; *simulans*, Berkeley; *spectabile*, Klotzsch; *surinamense*, Lévillé; *tenuissimum*, Berkeley; *vel-  
lereum*, Berkeley; *villosum*, Lévillé.

*Phlebia strigosa-zonata*, Schweinitz.





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