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XLV.—*Notices of Fungi in the Herbarium of the British Museum.* By the Rev. M. J. BERKELEY, M.A., F.L.S.

[With Four Plates.]

THE greater part of the Fungi described in the present memoir were collected by König in Ceylon, a country which has hitherto made very slight contributions to mycology. They consist principally of *Polypori*, which, with the exception of one or two cosmopolites, are new. König had evidently in most cases well distinguished the species, and probably intended to publish them. As most of them have manuscript names, I have thought it incumbent upon me to preserve them where it was possible, though obliged to alter the generic name. The other Fungi are mostly those described by Swartz in his 'Flora Indiæ Occidentalis.' Of several of these I have given figures, which will I trust be acceptable as clearing up difficulties and illustrating some very interesting and singular productions. I trust that one effect of my labours may be to draw attention to a portion of our national herbarium, which, though containing several objects of interest, is perhaps that which has hitherto received the fewest contributions.

As regards the species themselves, it is very possible, though I have had access to a large portion of the described species of exotic Fungi, that I may have failed to recognise some already published. If so, it will at any rate be in the power of any competent person to correct the errors I may have made by an inspection of the individual specimens described. I cannot close these observations without making due acknowledgement to Dr. Brown and Mr. Bennett for the free and continued access which they kindly gave me to this portion of the herbarium.

1. *Lentinus fulvus*, n. s. Pileo profunde infundibuliformi sulcato-striato subzonato badio; tomento brevi fasciculato fulvo subhispido versus marginem densiori vestito, inmixtis setis longioribus rectis; lamellis cinereis distantibus integerrimis omnibus una desinentibus; stipite hispido-tomentoso subæquali.

In Herb. Mus. Brit., without habitat.

Pileus  $1\frac{3}{4}$  of an inch broad, deeply infundibuliform, regularly striato-sulcate from within a short distance of the obscurely-zoned dark-bay centre, clothed with short fasciculate, tawny, somewhat hispid down, which is denser towards the margin and mixed with long straight browner setæ; margin arched. Gills cinereous brown, distant, ending nearly at the same point, but slightly decurrent, their edge quite entire. Stem  $1\frac{1}{2}$  inch high, 2 lines thick at the base, nearly equal, clothed with hispid down unmixed with setæ, which extends for some distance up the gills, making a dark band at their base.

There is a slight resemblance between this well-marked species and *Lentinus strigosus*, but its closest ally is *Lentinus fasciatus*.

PLATE IX. fig. 1. *Lentinus fulvus*, nat. size.

2. *Lentinus crinitus*, Fr. Pileo infundibuliformi pilosotomentoso stipiteque tenerrime subglabro lævi subochraceis; lamellis æqualibus denticulatis pallidioribus. *Ag. crinitus*, L. Sp. Pl. ed. 2. p. 1644. *Pocillaria lanuginosa*, &c., Brown's Hist. Jam. tab. 15. fig. 1.

Jamaica, Swartz. Herb. Mus. Brit.

Pileus  $\frac{3}{4}$  of an inch broad, deeply infundibuliform, pale ochraceous, clothed with somewhat curled, soft, pale, tawny, subfasciculate hairs; margin deflexed. Gills pale, very narrow, all ending at the same point, their edge denticulate, with shallow notches. Stem about 1 inch high, about 1 line thick, sprinkled with little downy patches, beneath which it is pale and silky.

Described from a specimen in the British Museum, marked by Swartz. The synonym of Plumier quoted by Linnæus and Fries is evidently something very different.

PLATE IX. fig. 2. *Lentinus crinitus*, nat. size.

3. *Lentinus connatus*, Berk. in Lond. Journ. of Bot. = "*Peziza Agaricina*, Fl. Zeyl.," König in Herb. Mus. Brit.

4. *Panus areolatus*, n. s. Pileis imbricatis suborbicularibus undulatis glabris areolatis lateritio-fulvis; lamellis paucis latis rigidis lateritio-cinereis.

In Herb. Mus. Brit., without habitat. On charred wood.

Pilei 1 inch broad, scarcely so much long; stemless, suborbicular, subpubescent, imbricated, areolate, smooth, but the areolæ are minutely cracked, so as to present a pruinose appearance, tawny, with a shade of brick-red. Gills few, very broad, rigid, cinereous, with a sublateritious tinge, not at all dichotomous; edge entire.

PLATE IX. fig. 3. *Panus areolatus*, nat. size.

5. *Xerotus Berterii*, Mont. ! (non *X. Bertierii*) = "*Pez. nervosa* concava hemisphaerica atropurpurea; habitat in densissimis sylvis Malacca." König in Herb. Mus. Brit.

Dr. Montagne remarks to me in a letter lately received, speaking of *Lentinus Berterii*, that Fries has unfortunately changed the name *Berterii* into *Bertierii*. He writes that this is the more important, as there is a French surgeon at Bourbon named Bertier who is a mycologist.

6. *Schizophyllum commune*, Fr. = *Ag. radiatus*, Sw. ! Prodr. p. 148.

7. *Lenzites striata*, Fr. = *Ag. striatus*, Sw. ! Prod. p. 148; Fl. Ind. Occ. p. 1920.

This species appears to be common in Guiana from the quantity of specimens brought by Dr. Schomburgk. The name is calculated to mislead, as the pileus is in fact scarcely at all striate. Swartz's specific name probably referred to the obsolete zones. This and another nearly allied species from Guiana resemble much *Lenzites abietina*. I shall hope to describe both in an account of the Fungi collected by Schomburgk which are now in the herbarium of Sir W. J. Hooker.

8. *Pol. Agariceus* (König sub *Boleto*). Pileo e lento coriaceo convexo umbilicato azono glaberrimo; margine involuto demum subnudo; stipite centrali subelongato flexuoso deorsum velutino; poris submagnis subhexagonis decurrentibus. "*Bol. agariceus*, Fl. Zeyl. in nemorosis," Kön. in Herb. Mus. Brit.

Ceylon, König. Herb. Mus. Brit.

Pileus 1 inch broad, quite smooth, convex, umbilicated; margin more or less involute, obscurely ciliated. Stem  $1\frac{1}{4}$ — $1\frac{1}{2}$  inch long,  $\frac{1}{2}$ —1 line thick, flexuous, rather thickened above, where it is nearly smooth, velvety below. Pores radiating, subhexagonal, elongated,  $\frac{1}{56}$ th of an inch broad, decurrent; dissepiments thin, acute.

Allied to *Pol. arcularius* and *P. tricholoma*, but abundantly distinct. In an early stage of growth the cilia are probably more visible.

9. *Polyporus sacer*, Fr. Pileo tenui rigidiusculo orbiculari profunde umbilicato zonato, fusco rufoque variegato glabrescente, radiatim striato. Stipite centrali radicato fulvo-brunneo, sursum attenuato velutino; hymenio pallido a stipite omnino distincto; poris mediis subhexagonis.

Herb. Mus. Brit., without habitat.

Pileus 4 inches across, rather deeply umbilicate, thin, but rather rigid, orbicular, beautifully zoned, and variegated with shades of deep brown and red; at first minutely velvety, marked in a radiating direction with striæ. Stem 6 inches high, about half an inch thick, hard, white within, attenuated

upwards, and then expanding; below incrassated, flexuous, and rooting deeply, coated with a dull tawny brown crust, which, especially near the pileus, is permanently though minutely velvety. Hymenium pale, ending abruptly both towards the margin and stem; margin brown, quite barren; pores rather long,  $\frac{1}{60}$ th of an inch broad, subhexagonal, rather regular; substance white, corky, but silky.

This very splendid species appears clearly to be the same with what Fries has described from Guinea, where it is said to be an object of superstition with the negroes. As the figure to which he refers is unpublished, the present sketch will not be superfluous. Only a single sheet in the form of an academic dissertation has appeared of the description of Afzelius' *Fungi*. This I possess through the kindness of Dr. Areschoug, who informs me that it is merely to be considered as a prodromus to a more complete illustration of the species.

PLATE IX. fig. 4. *Polyporus sacer*, nat. size.

10. *Pol. xanthopus*, Fr. = "*Bol. pictus*," König.  
Ceylon. In Herb. Mus. Brit.

11. *Pol. crenatus* (König sub *Boleto*). Pileo brevissime stipitato tenui plano rigido subreniformi crenato-lobato rufo glabrescente zonato; hymenio pallide brunneo; poris minutissimis. "*Boletus crenatus*, Fl. Zeyl.," König in Herb. Mus. Brit.

Ceylon, König. Herb. Mus. Brit.

Pilei 2—3 inches broad,  $1\frac{1}{2}$  inch long, laterally confluent, flat, thin, rigid, corky, shortly but distinctly stipitate, subreniform, regularly crenate with rounded lobes, bright red-brown, at first clothed with short, dull, tawny, velvety down, at length quite smooth and shining, repeatedly zoned; margin slightly turned back, obtuse. Hymenium dull brown, uneven; pores round, so minute as to be quite indistinct to the naked eye.

This species has a very peculiar habit. It resembles some states of *Pol. xanthopus*, which, like most central-stemmed *Polypori*, varies with a lateral or almost obsolete stem. It belongs with the two following to the section 4. *Hornotini*, Fr. Epicr.

12. *Polyporus pæcilus*, n. s. Stipite brevi laterali; pileis subreniformibus rigidis lateraliter connatis brunneis subglaucis subzonatis; hymenio ochraceo; poris submagnis angulatis; dissepimentis tenuibus dentato-elongatis. "*Boletus variegatus*," König in Herb. Mus. Brit.

Habitat uncertain. Herb. Mus. Brit.

Forming patches 9 inches broad,  $4\frac{1}{4}$  inches long, consisting

of laterally connate pilei 3 or 4 inches broad. Pilei subreniform, slightly lobed, thin, very rigid, rugged behind, obscurely zoned, of a nearly uniform bistre-brown, with the edge however paler; smooth, but with a glaucous aspect, as if very minutely velvety; margin rather obtuse. Hymenium uneven, ochraceous; pores rather large,  $\frac{1}{3}$ th of an inch broad; dissepiments thin toothed and elongated, often absorbed, so as to give the hymenium a Dædaloid aspect. Stem lateral, distinct, three-quarters of an inch broad and long, pale like the margin of the pileus, very obscurely velvety or pruinose.

This species must be arranged near *Pol. flabelliformis*, Kl., but I am unable to point out any species with which it has a close affinity.

13. *Pol. Königii*, n. s. Pileo tenui rigido duro semiorbiculari subtiliter pruinoso-velutino glabrescente lineato-punctulato cervino zonis obscurioribus castaneove; margine obtusiusculo; poris parvis distinctis rotundis; dissepimentis subintegris; contextu ferrugineo pallidioribus. "*Bol. spadiceus*," Kön. Herb. Mus. Brit. "*Bol. castaneus*, Fl. Zeyl.," Kön. l. c. ut videtur provector.

Ceylon, König. Herb. Mus. Brit.

Pileus 2—3 inches broad, thin, very hard and rigid, semi-orbicular, not undulated, marked with little linear pits, at first clothed with obscure velvety down, fawn-coloured with rufous zones. Stem very short, lateral, arising from an elongation of the vertex. Substance corky, ferruginous. Pores small,  $\frac{1}{100}$ th of an inch broad, distinct, round, with their borders even, paler than the flesh.

*Boletus castaneus*, Kön., is the same species of a more rufous tinge, with the stem more evidently arising from the vertex, and fewer zones.

14. *Pol. (Trametes) lactineus*, n. s. Pileo sessili irregulari subcrasso duro rigido azono suberoso lacteo pruinoso-velutino inæquali verruculoso; margine lobato; hymenio pallido; poris mediis rotundis dissepimentis crassis obtusis. "*Boletus lacteus*," König in Herb. Mus. Brit.

König, Herb. Mus. Brit., without habitat.

Stemless. Pileus 7 inches broad,  $3\frac{1}{2}$  inches long, irregular, very hard and rigid, corky, rather thick, lobed, zoned ss, clothed with a uniform, very short, pruinose velvety down, uneven, with numerous little warts. Hymenium pallid, wood-colour; pores middle-sized,  $\frac{1}{8}$ th of an inch broad, perfectly round, with thick obtuse dissepiments; substance of a pallid wood-colour.

15. *Pol. (Trametes) aureus*, n. s. Pileo convexo dimidiato conchiformi sessili setis brevibus aureis vestito, zonato; mar-

gine acutissimo ; hymenio sub-brunneo ; poris longis pallidolignicoloribus mediis, acie irregulari denticulata.

Without habitat. Herb. Mus. Brit.

Pileus  $2\frac{1}{4}$ —3 inches broad,  $1\frac{1}{2}$  inch long, conchiform, clothed with bright, tawny, straight, short, more or less distinct bristles, distinctly zoned with darker shades ; margin extremely acute and rigid, very slightly waved, substance thin. Hymenium brownish ; pores long,  $\frac{1}{80}$ th of an inch broad, pallid wood-coloured, with a distinct trama, middle-sized, irregular ; edge slightly toothed ; margin barren.

This species is evidently allied to *Pol. suaveolens*, but it is a much more beautiful plant, and differs greatly in its shortly setose pileus.

16. *Pol. (Trametes) laticolor*, n. s. Pileo sessili semiorbiculari tenui suberoso-coriaceo subzonato carneo-fulvo subpruinoso ; contextu lignicolori, poris magnis rotundis acie obtusa. On decayed trunks of trees in woods.

Ceylon. König in Herb. Mus. Brit.

Pileus 2 inches broad,  $\frac{3}{4}$  inch long. Stemless, semiorbicular, thin, suberoso-coriaceous, very obscurely zoned, bright fawn-coloured, slightly uneven, nodulose behind, clothed with extremely obscure pruinose down. Substance wood-coloured, velvety ; edge thin, not lobed. Hymenium nearly even ; pores large,  $\frac{1}{4}$ th of an inch broad, round, their dissepiments obtuse.

The only species to which this appears to be allied is *Pol. (Trametes) Beyrichii*.

17. *Polyp. dubius* (Kön. sub *Boleto*). Pileo fuliginoso-fulvo, coffeato-pruinoso sessili basi effusa semiorbiculari quandoque obliquo tenui duro rigido e sulcis radiantibus zonis decussatis rugoso ; margine obtusiusculo ; contextu duro suberoso cervino ; poris mediis badiis irregularibus angulatis dissepimentis tenuibus sæpe confluentibus. "*Bol. dubius*, Fl. Zeyl.," Kön. in Herb. Mus. Brit. On rotten wood in shady woods.

Ceylon, König. Herb. Mus. Brit.

Pileus 3 inches broad,  $1\frac{1}{2}$  inch long, stemless, effused at the base, thin, very hard and rigid, semiorbicular, at length sometimes oblique, tawny brown, with a coffee-coloured bloom, rugged, with radiating furrows, which are crossed by many narrow zones ; edge thin, but obtuse. Substance hard, corky, fawn-coloured ; pores middle-sized,  $\frac{1}{8}$ th of an inch broad, bay, irregular, angular ; dissepiments rather thin, often confluent.

There is a *Polyporus* also from Ceylon in König's collection, which, though differing in some points, I refer to the same species. Some specimens are scarcely at all zoned, though others, especially when young, have many zones. The most striking difference consists in the absence of the strong radiating furrows, which give the state described as normal a re-

markedly wrinkled appearance. The pores and substance are alike, which are the points on which the greatest stress must be laid when difficulties occur. The pores however, especially in *Hexagona*, vary much in size, so that even these are not always decisive. This state appears to approach *Pol. levissimus*, Fr. Ep. The colour in these specimens is far brighter.

18. *Polyporus supinus*, Fr. *Boletus resupinatus*, Swtz. ! Pr. p. 149. *B. supinus*, Fl. Occ. p. 1926 = *Pol. Valenzuelianus*, Mont. !

The plant of Montagne, of which a figure will appear in the history of Cuba, is precisely that of Swartz. It was next to impossible without inspection of specimens to have ascertained their identity, the name of Swartz being altogether inapplicable, as the species is not resupinate. The name could have arisen only from an accidental inversion of the specimens obtained, which Swartz informs us were very few.

19. *Polyporus zonalis*, (Kön. sub Bol.) *Suberosus tenuis imbricato-multiplex sessilis lateraliter connatus rigidus*; pileis semiorbicularibus rotundato-lobatis repetito-zonatis rugulosis pruinosis cervinis; zonis glabris subnitentibus rufis, margine acuto; poris minutissimis fusciscentibus. "*Boletus zonalis*, Fl. Zeyl.," König.

Ceylon, König. Herb. Mus. Brit.

Imbricated; pilei 1—2 inches broad,  $\frac{3}{4}$ — $1\frac{1}{4}$  inch long, sessile, lobed; lobes roundish or reniform, very hard and rigid, corky, contracted in drying, pruinose, fawn-coloured, with numerous rufous, smooth and rather shining furrow-like zones, with many of the interstices raised and forming sharp ridges; rugulose, in some specimens regularly decussated by minute radiating lines; edge very thin. Pores extremely minute, invisible to the naked eye, except a few whose orifices are oblique, brownish.

This species is allied to *Pol. microporus*, but differs from it in its regularly zoned brightly coloured pileus and in its whole habit. It is perhaps more nearly allied to *Polyporus micromegas*, Mont., but the specimens of that species hitherto obtained are so few and imperfect as to make it impossible to speak positively; better specimens may prove them scarcely at all allied. It is a very beautiful species.

PLATE X. fig. 5. *Polyporus zonalis*, nat. size.

20. *Polyporus microporus*, Fr. *Pileo lignoso effuso-reflexo rugoso glabro pallido intus albido, poris minimis acutis pallidis fusciscentibus. Boletus microporus*, Swartz! Fl. Ind. Occ. p. 1925.

Jamaica, Swartz. Herb. Mus. Brit.

Pileus 2—3 inches broad, widely effused behind; margin

free, reflexed, waved, rugose, unequal, rigid, pallid, wood-coloured, zoned, very obscurely silky. Substance hard, pallid; margin very acute. Tubes very slender, stratose; orifices very minute\*, nearly invisible to the naked eye, at first wood-coloured, then pale gilvous, at length, according to Fries, brown, angular or subrotund: dissepiments very thin, acute.

This species resembles in many respects *Polyporus Auberianus*, Mont., as the foregoing does *Pol. micromegas*, Mont. It is allied to *Pol. ulmarius*. Fries describes this species as zoneless, but the specimen in the British Museum from Swartz is very evidently zoned. *Polyporus Auberianus* also is sometimes without zones or furrows; it differs so much in its large size and free development, that, from the inspection of a single specimen only of either species, it would be rash to give too decided opinion as to their identity.

PLATE X. fig. 6. *Polyporus microporus*, nat. size.

21. *Polyporus scytinus*, n. s. Pileis basi effusis lateraliter connatis limbo semiorbiculari coriaceo flexili pallide badiosusco zonato spongioso-tomentoso; margine tenui acuto; poris parvis subirregularibus, dissepimentis subobtusis pileo concoloribus. Cum. Phil. n. 2031.

Philippine Islands, Cuming. Herb. Mus. Brit.

Pilei 3 inches broad,  $2\frac{1}{2}$  long, stemless, effused at the base, horizontal, semiorbicular, scarcely lobed, laterally confluent, coriaceous, flexible, of a pallid bay-brown, repeatedly zoned, clothed with short spongy down; edge thin, acute, barren. Substance of the same colour as the pileus, soft, like that of *Polyporus fomentarius*. Pores short, small,  $\frac{1}{8}$ th of an inch broad, rather irregular, their dissepiments rather obtuse.

Very much resembling *Polyporus caperatus*, but not so rigid and the pores are much larger. This species was not in the set described in the 'London Journal of Botany' from Sir W. J. Hooker's herbarium nor in my own.

The specific name of *Pol. intybaceus*, Berk., in 'Lond. Journal of Botany,' a species from the Philippine Islands, being pre-occupied, I beg to substitute for it that of *Pol. cichoraceus*.

22. *Polyporus Floridanus*, n. s. Pallide badius, pileis subflabellaribus lateraliter connatis tenuibus coriaceis zonatis pubescentibus; zonis glabrescentibus; poris parvis irregularibus subdentatis contextu gilvo-badio.

Eastern Florida, near Matanza. On dead trees.

Val. Gardner, Esq. Herb. Mus. Brit.

Pilei forming patches 5 inches or more broad; the individuals of which they are formed being about 2 inches broad,  $1\frac{1}{2}$  long, laterally connate, subflabelliform, very thin, coria-

\* In the figure they are too strongly expressed.

ceous, repeatedly zoned, clothed with very short dense pubescence, which in the darker zones, which are comparatively smooth, is arranged in lines; margin very slightly lobed, extremely thin and acute; substance corky. Pores small,  $\frac{1}{100}$ th of an inch broad, irregular; dissepiments shortly dentate, elongated; margin barren, obscurely tomentose. Colour of the whole plant, including the substance, of a more or less pallid bay, like that of *Thelephora laciniata*.

The nearest ally of this species is *Pol. scytinus*, described in the present memoir. It is a smaller plant of a very different form, not to mention other points of distinction.

23. *Pol. zeylanicus*, n. s. Pileo valde tenui lobato coriaceo gilvo-cervino lineis pliciformibus fasciculato-fibrosis exasperato; postice scabroso; poris submagnis dissepimentis tenuibus dentatis elongatisque. "*Bol. radiatus*, Fl. Zeyl.," König in Herb. Mus. Brit.

Ceylon, König. Herb. Mus. Brit.

Pileus 2 inches long,  $2\frac{1}{2}$  inches broad, stemless, very thin, lobed, coriaceous, marked with radiating fold-like lines, which bear branched fascicles of fibres, and towards the base are rough with isidiiform processes, reddish fawn-colour with a satiny lustre. Substance fawn-coloured, silky. Pores rather large,  $\frac{1}{36}$ th of an inch broad, their edge toothed and elongated; margin extremely thin and acute, barren. Resembling *Pol. sericeo-hirsutus*, Kl. (*Hexagona sericea*, Fr.), with somewhat of the aspect of *Hexagona polygramma*, Montagne.

24. *Pol. nigro-cinctus*, n. s. Imbricatus rigidus; pileo fragili villo strigoso cinereo vestito; margine brunneo; poris parvis subcinereis. "*Boletus fragilis*," König in Herb. Mus. Brit.

Ceylon and elsewhere, König. Herb. Mus. Brit.

On trunks of trees, but not common.

Stemless, imbricated, with the habit of a small *Stereum*. Pileus one inch broad, half an inch long, thin, rigid, clothed with cinereous, rigid, matted, strigose hairs or bristles, with one or two zones; margin slightly lobed, striate, deep brown, extremely acute, forming occasionally a crest-like ridge. Pores small,  $\frac{1}{80}$ th of an inch broad; dissepiments rigid, cinereous, wood-coloured.

Two forms or rather states of this species occur: one, which seems to be the more normal form, described above; the other from Ceylon, on charred wood, is more regular and occasionally almost smooth, with the pores irregular and the dissepiments obtuse.

I am unable to point out any species to which it is nearly allied, except perhaps *P. cingulatus*.

25. *Pol. galbanatus*, n. s. Pileo subtenui plano suberoso obsolete zonato luteo-velutino setis longioribus passim im-

mixtis; hymenio pallide flavo; poris parvis subrotundis dissepimentorum acie æquali. "*Bol. lutescens*," König in Herb. Mus. Brit.

Habitat unknown. Herb. Mus. Brit.

Pileus sessile, plane,  $2\frac{1}{2}$  inches broad;  $1\frac{1}{2}$  inch long, rounded, rather thin, corky, obsoletely zoned, clothed with velvety down, towards the middle adorned with zones of longer and stiffer bristles; margin obtuse, even; disc slightly waved. Hymenium pallid yellow; pores small,  $\frac{1}{90}$ th of an inch broad, subrotund; border of dissepiments even.

Allied to *Pol. hirsutus*, but, as it appears to me, very distinct.

26. *Polyporus Menziesii*, n. s. Pileo cuneato antice rotundato tenui coriaceo flexili obsolete zonato lignicolori glabro; poris mediis dissepimentis tenuibus.

Sumatra, Menzies. Herb. Mus. Brit. on charred wood.

Pileus  $1\frac{1}{8}$  of an inch long,  $1\frac{1}{4}$  broad, in front cuneiform, arising from a minute round disc, laterally confluent, very thin and flexible, dull wood-coloured, obsoletely zoned, smooth, minutely radiato-striate in front, where it is rounded and scarcely lobed. Pores middle-sized,  $\frac{1}{80}$ th of an inch broad, angular; dissepiments thin, edge nearly even. Hymenium slightly concave, surrounded by a rather broad barren border.

In form resembling *Pol. sector*, but differing remarkably in the size of the pores.

27. *Polyporus membranaceus*, Fr. Flabellato-multifidus lobatus plicatus pallidus sericeo-striatus glabrescens subnitidus multizonatus membranaceus tenuissimus; poris parvis curtis; dissepimentis tenuibus demum laceris difformibus. *Boletus membranaceus*, Swartz! Prodr. p. 148; Fl. Ind. Occ. p. 1922.

Jamaica, Swartz. Herb. Mus. Brit.

Flabellato-multifid, repeatedly lobed and plicate; lobes rounded, sublaciniate, very thin and membranaceous, sericeo-striate, pallid, at length nearly smooth and shining, adorned with many zones, especially towards the margin, where they are close and regular. Pores ochraceous, small,  $\frac{1}{100}$ th of an inch in diameter, at length irregular; dissepiments very thin, toothed and elongated.

PLATE X. fig. 7. a, *Polyporus membranaceus*, nat. size; b, portion of the hymenium magnified.

28. *Dædalea inæquabilis*, n. s. Pileo tenui suberoso-coriaceo subrigido multizonato, subundulato, glaberrimo lignicolori; poris magnis plus minus elongatis, dissepimentis tenuibus acie acuta sæpe lacera.

Ceylon, König. Herb. Mus. Brit.

Pileus oblique, sessile,  $2\frac{1}{4}$  inches long, and about as much broad, thin, rather rigid, corky, wood-coloured, quite smooth,

repeatedly but not strongly zoned, slightly undulated and uneven; edge very thin and acute; substance of the colour and consistence of cork. Pores large,  $\frac{1}{16}$ th— $\frac{1}{20}$ th of an inch broad; dissepiments rather thin, acute, often torn and elongated behind, very shallow towards the margin, wood-coloured like the pileus. The pileus does not shine, but though of a different colour has somewhat the aspect of that of *Hexagona tenuis*. It resembles *Dædalea tenuis*, but is much more zoned, and the dissepiments are much thinner.

29. *Hexagona Wightii* (*sphalmate Wrightii*), Fr. *Polyporus* (*Scenidium*) *Wightii*, Kl. in Linn. vii. p. 200. *Boletus Favus*, L. Ins. Ind. Or., A. Dalrymple, Esq. Herb. Mus. Brit.

*Hexagona tenuis* is marked in the Linnæan Herbarium *Boletus Favus*, but not by Linnæus, with whose description it does not correspond. The name is evidently not authentic.

30. *Hexagona Königii*, n. s. Pileo suberoso-coriaceo subreniformi subazono plano fibroso-setoso gilvo-badio; alveolis irregularibus amplis, dissepimentis elongatis subflaccidis setulosis.

Ceylon, König. Herb. Mus. Brit.

Pileus 3 inches broad,  $2\frac{1}{4}$  long, thin, suberoso-coriaceous, subreniform, from a distinct but not stipitiform vertex, very obscurely zoned, deep red-brown, rugose, clothed with scattered branched rigid bristles, which at length fall off, leaving a raised line; substance ferruginous, velvety, like that of *Pol. fomentarius*; alveoli large, nearly a line broad, very irregular; dissepiments thick, not rigid, elongated and toothed, paler than the pileus, deep setulose within.

This species is very nearly allied to *Hexagona Wightii*, differing principally in the irregular elongated pores with flaccid, not rigid, dissepiments. The pores are so little hexagonal, that were it not for the very evident affinity, it might be placed in the genus *Dædalea*.

31. *Hexagona papyracea*, n. s. Pileo sessili semi-orbiculari, papyraceo, tenui, flexili, subtiliter velutino glabrescente crebri-zonato sanguineo-lignicolorique variegato; hymenio cervino; poris hexagonis regularibus mediis.

Herb. Mus. Brit. Hab. unknown.

Pileus 9 inches broad, 5 inches long, sessile, semiorbicular, thin as paper and very flexible, marked with little raised radiating striæ, repeatedly zoned with intermediate finer lines, variegated with sanguineous and ligneous shades, at first clothed with extremely fine olive-brown velvety down, like a coat of some *Cladosporium*; edge extremely acute, of a more tawny tinge than the rest of the pileus; substance bright fawn-coloured, silky. Hymenium fawn-coloured; pores hex-

agonal,  $\frac{1}{60}$ th of an inch broad, extremely regular, marked on the basal side with concentric lines.

This very fine and striking species, of which unfortunately the locality is unknown, resembles most a species gathered by Schomburgk in Brazil, which I have communicated to Dr. Montagne under the name of *H. variegata*, but which is considered by him as a non-setose state of his *Hexagona aculeata*. Both are entirely destitute of the strong fascicles of hairs or bristles which are so remarkable in many species.

32. *Hexagona sericea*, Fr. *Polyporus sericeo-hirsutus*, Kl. ! in Linn. viii. p. 483. = *Boletus villosus*, Swartz ! Prodr. p. 149 ; Fl. Ind. Occ. p. 1933.

The specimen in the Herbarium of the British Museum, marked by Swartz himself, is exactly the plant of Klotzsch. Fries however keeps the two distinct.

33. *Hexagona tenuis*, Fr. = "*Bol. Psidii*," Kön. in Herb. Mus. Brit.

This species varies much in the size of the pores. It is probable that the number of species in this genus, though small, will hereafter be considerably reduced.

34. *Hydnum flavum*, n. s. Pileo sessili suborbiculari convexo tenui "pallide flavo" glaberrimo, hymenio pallido, aculeis brevissimis granulato-denticulatis. *Peziza flava*, Swtz. ! Prodr. p. 150 ; Fl. Ind. Occ. p. 1933.

On wood. Jamaica, Swartz ! Herb. Mus. Brit.

Pileus  $1\frac{1}{2}$  inch long, nearly as much broad, suborbicular, but involute when dry, stemless, attached by the apex, thin, perfectly smooth and shining, of a bright orange-yellow when dry, darker at the margin, which is very acute. Hymenium pale ; aculei very short, subcylindrical, with a few acute granular processes at the apex.

It gives me much pleasure to be able to clear up a very doubtful species, which proves to be a very beautiful and interesting *Hydnum*. The aculei are so minute as almost to justify the association of the species with *Grandinia*. The genera of *Hymenomyces* at present are however so unsettled, that I prefer placing it in *Hydnum*. Swartz described the smooth outer surface of the pileus as the hymenium ; it contains however no asci, and is most certainly the upper surface, as will be seen by the figures.

PLATE X. fig. 8. *a*, *Hydnum flavum*, nat. size ; *b*, section magnified ; *c*, a portion of the substance of the pileus highly magnified.

35. *Hydnum discolor*, Fr. Pileo sessili carnosio convexo lævi glabro pallido, aculeis cylindricis obtusis subulatisve æqualibus ferrugineis. *Hydnum agaricoides*, Swartz ! Prodr. p. 149 ; Fl. Ind. Occ. p. 1927.

On wood. Jamaica, Swartz. Herb. Mus. Brit.

Stemless,  $1\frac{1}{2}$  inch or more across, convex, attenuated behind, semi-orbicular, rather thick, pale, with a few indistinct zones, fleshy and brittle when fresh, when old tough and dark like the prickles; smooth, except towards the very slightly undulated margin, where it is scabrous; substance pale; prickles 2—3 lines long, crowded, simple, diaphanous, ferruginous brown, cylindrical, slender, obtuse, or acute.

In the dry state the pileus is nearly as dark as the prickles, but the substance remains pale.

*Hydnum sericeum*, Swtz.! (*Thelephora sericea*, Fl. Occ. p. 1928) belongs to the genus *Dichonema*, or rather *Dictyonema*, for the latter seems to be a more perfect state of the former.

PLATE X. fig. 9. *d*, *Hydnum discolor*, nat. size; *e*, section near the margin, magnified.

36. *Thelephora setosa*, Swtz. Imbricata e basi effusa reflexa ferrugineo-fusca fibris ramosis vestita subzonata; hymenio inæquabili granulato setuloso. *Hydnum resupinatum*, Swartz! Prodr. p. 149. *Thelephora setosa*, Fl. Ind. Occ. p. 1929.

Jamaica, Swartz. Herb. Mus. Brit.

Pilei stemless, imbricated, 1 inch or more broad,  $\frac{3}{4}$  of an inch long; base effused, margin reflected, of a dull ferruginous brown, obscurely zoned, clothed with coarse branched fibres somewhat after the manner of *Pol. hydnoideus*,  $\frac{1}{4}$  of an inch long, which compose almost the whole substance of the pileus. Hymenium granulated, of the same colour as the pileus, with very minute scattered bristles.

An extremely curious and well-marked species, being to *Thelephora* what *Corticium crinitum* is to *Corticium*.

PLATE XI. fig. 10. *Thelephora setosa*, nat. size.

37. *Stereum pusillum*, n. s. Cartilagineo-coriaceum, pileo flabellari nitide umbrino-rufo azono sericeo-striato glabro; margine acutissimo tenui lobato; stipite curto sublaterali erecto, hymenio pallido lævi glabro. "*Clavaria pezizæformis*, Fl. Zeyl.," König in Herb. Mus. Brit.

Ceylon, König. Herb. Mus. Brit.

Stem  $\frac{1}{4}$  of an inch high, lateral but vertical, giving off a flabelliform pileus not  $\frac{1}{2}$  an inch long and broad, slightly lobed, laterally connate, rather rigid, smooth but sericeo-striate, of a bright burnt umber, not zoned; edge very thin, divided into two or three obtuse lobes. Hymenium pale, smooth, quite free from bristles. Allied to *Stereum elegans*.

38. *Stereum reniforme*, Fr. Ep. p. 546. "*Helvella nova*." Herb. Mus. Brit.

Herb. Mus. Brit. Without habitat. Probably from Swartz.

Stem more than an inch high, about one line thick, lateral, attenuated upwards, downy, ferruginous, sprinkled, as is the whole plant, with short bright brown setæ. Pileus 1 inch broad, about  $\frac{1}{2}$  an inch long, thin and flexible, but coriaceous, reniform, slightly lobed, obscurely zoned, marked with very fine radiating raised lines of a golden cinnamon-brown. Edge very thin and acute, slightly waved. Hymenium even, of the same colour as the pileus, setulose.

I have referred this beautiful plant to *S. reniforme*, Fr., with which it very closely agrees, differing chiefly, as far as may be judged from the short diagnosis, in its more golden hue. The colour and substance are exactly those of some of the bright-coloured exotic forms of *Stereum rubiginosum*.

PLATE XI. fig. 11. *Stereum reniforme*, nat. size.

39. *Stereum atratum*, Fr. Umbonato-sessile, pileo tenui rigido lævi fusco nigro-fasciato subtiliter olivaceo-velutino demum glabro versus marginem undulatum pallidiori; hymenio demum rimoso glabro atro. *Helvella atrata*, Swartz! Prod. p. 149. *Thelephora atrata*, Fl. Ind. Occ. p. 1933.

Jamaica, Swartz. Herb. Mus. Brit.

Pilei  $1\frac{1}{4}$  inch long, 1 inch broad, laterally connate, rotundato-cuneiform, slightly lobed or undulated, thin but very rigid, clothed at first with minute subolivaceous velvety down, dark brown, with narrow black concentric bands; substance cervino-ferruginous. Hymenium dark brown, rather scabrous but not bristly, concentrically cracked.

The specimen which I have had an opportunity of inspecting is old and in a bad state, but it presents one or two characters not noticed by Fries.

PLATE XI. fig. 12. *Stereum atratum*, nat. size; *a*, upper side; *b*, hymenium.

40. *Stereum versicolor*, Fr. Umbonato-sessile submembranaceum; pileo subtiliter villosa; villis radiantibus; zonis marginæ glabrescentibus fuscis variegato; hymenio lævi glabro pallido. *Helvella versicolor*, Swartz! Prod. p. 149. *Thelephora versicolor*, Fl. Ind. Occ. p. 1934.

Jamaica, Swartz! Herb. Mus. Brit.

Pilei 1 inch long, laterally connate, umbonato-sessile, of a tawny ligneous hue, variegated with narrow concentric bands of greater or less intensity, coriaceo-membranaceous, lobed and undulated, clothed with silky villous fascicles, all lying in a radiating direction. Hymenium pale ochre, very smooth.

The distinguishing character of this elegant species appears to depend on the peculiar nature of the villous coat. *Stereum lobatum* is also characterized by Fries as villous, but in one of the forms, that published by Klotzsch in the 'Linnæa,' the pubescence is thickly matted, none of the individual hairs projecting beyond the main mass; while in the other, though the hairs are more distinct, there is nothing like the radiating arrangement which is visible in Swartz's specimens. The habit too is different. *S. versicolor* is a much smaller species. The subject being really one of some difficulty, a figure from authentic specimens cannot fail to be acceptable.

PLATE XI. fig. 13. *a a*, *Stereum versicolor*, nat. size; *b*, portion magnified.

41. *Guepinia palmiceps*, n. s. Stipite compresso subtiliter velutino cum pileo palmato-lobato confluyente; hymenio subplicato rufo. "Clav. muscoides, Fl. Zeyl."

Ceylon. Herb. Mus. Brit., König.

From  $\frac{1}{2}$  to  $\frac{5}{4}$  of an inch high; stem compressed, dark at the base, fawn-coloured, clothed, as is the pileus, with very minute velvety down, divided into two or more branches, which expand above into a somewhat spathulate pileus, with about six nearly equal, sometimes emarginate lobes; margin slightly thickened, subreflexed. Hymenium very obscurely folded, deep rufous.

PLATE XII. fig. 14. *a a*, & 15 *b*, left side, *Guepinia palmiceps*, nat. size.

42. *Guepinia fissa*, n. s. Stipite compresso subtiliter velutino; pileo fisso, lobis demum linearibus; hymenio luteo. "Clavaria lutea, Malacca and Siam."

König. Herb. Mus. Brit.

Nearly of the same size as the foregoing; pileus irregularly split into more or less linear lobes, which are themselves slightly lobed at the side. Hymenium ochraceous yellow.

Very much resembling the last, but differing in the less regular mode of division and in the paler hymenium. The clothing of the pileus and of the stem is the same in both species.

Both the species have a strong resemblance to *Guepinia spathularia*; but after an inspection of abundant specimens of the North American species, which has the hymenium very much more strongly plicate, I am inclined to consider them as distinct.

PLATE XII. fig. 15. *b*, the right hand figure, *Guepinia fissa*, nat. size.

43. *Clavaria compressa*, n. s. Pallida, mycelio fibrilloso niveo, stipite compresso, furcato; ramis paucissimis tenuibus cylindricis; apicibus acutis.

Jamaica. Herb. Mus. Brit. On rotten wood.

Plant  $1\frac{1}{4}$  inch high; mycelium white, branched, fibrillose, penetrating into the wood; stem compressed,  $1\frac{1}{2}$  line thick, springing from a broader base, divided above into four principal, rather flexuous, slender cylindrical branches connected at the base, and forked once or twice only; tips very acute. The whole plant is of a pallid ochraceous hue.

This species is evidently allied to *Clavaria crispula* and *byssiseda*. It agrees more with our common forms of *Clavaria* than those which are peculiar to the Tropics.

PLATE XII. fig. 16. *Clavaria compressa*, nat. size.

44. *Exidia rufa*, n. s. Cupularis sublateralis intus nigra; extus setis brevibus fasciculatis rufis vestita.

Herb. Mus. Brit. Ceylon, König.

Two or three inches or more across, cup-shaped, generally attached laterally; very hard and rigid when dry; slightly plicate at the base, clothed with short, fasciculate, hispid, bright sienna-brown bristles. Hymenium smooth, not much wrinkled, dark brown, inclining to black. Very distinct from every species I have seen in its bright red-brown bristles. The nearest species is *Exidia polytricha*, Mont.

PLATE XII. fig. 17. *Exidia rufa*, nat. size.

45. *Exidia fusco-succinea*, Mont.

Jamaica, Mr. Poore. Herb. Mus. Brit.

This is perhaps *Pez. nigra*, Swartz, which is certainly an *Exidia*.

46. *Sphæria thyrsus*, n. s. Suberosa, simplex, clavula obovata acuminata pallida, peritheciis sursum spectantibus magnis, ostiolis subelongatis obtusis nigris; stipite elongato cylindrico deorsum longissime radicato. "*Clathrus acuminatus*," Roxb.

In the Botanic Garden, Calcutta. Herb. Mus. Brit.

Whole plant nearly six inches high, rooting deeply into the soil; root flexuous, attenuated downwards; stem cylindrical, nearly equal, black, slightly wrinkled, white within, surmounted by the pale fawn-coloured, acuminate, obovate head, which is rough from the protrusion of the black ostiola, which all point upwards, so as to give it the appearance of a little fir-cone. Perithecia obovate, with a short neck. Asci linear, obtuse, containing eight subcymbiform dark brown sporidia, which are furnished on one side with a gelatinous coat projecting beyond the apices.

This species, of which I understand from Dr. Brown much larger specimens occur, is allied to *Sph. pedunculata*, Dicks.

Like that species, the sporidia have a gelatinous coat, but surrounding only one side, like an arillus. This is sometimes contracted at the sides, so that a portion of it projects at either end of the sporidium, forming a little transparent appendage. It is probable that in an earlier stage of growth the coat entirely surrounded the sporidium.

PLATE XII. fig. 18. *Sphæria thyrsus*, nat. size; *a*, ostiola and perithecia; *b*, ascus with its sporidia; *c*, sporidium with its gelatinous appendage. All more or less magnified.

47. *Sphæria ianthino-velutina*, Mont.

*Clavaria fusca*, Swartz! Prod., is referable to this or some closely allied species. The specimens are very imperfect, and without fruit.

48. *Sphæria escharoidea*, n. s. Suberosa simplex clavula cylindrica apiculata ex ostiolis conicis prominulis scabra, pallida; stipite elongato, cylindrico, radicato. "*Clavaria pistillaris?* membrana escharoidea tecta. Fl. Zeyl." König in Herb. Mus. Brit.

Ceylon, Dr. König. Herb. Mus. Brit.

Whole plant about 3 inches high, rooting deeply; root nearly equal, flexuous, uneven, nodulose, about  $\frac{3}{4}$  of a line thick; stem 1 inch high, cylindrical, equal, slightly thickened at the base, about  $\frac{1}{3}$ rd of a line thick, black, washed with a dull white coat, minutely striate or wrinkled, quite smooth; head cylindrical, equal, nearly an inch high, obtuse at either end, tipped with a sharp apiculus, pallid, rough, with the conical prominent ostiola of the small perithecia. Sporidia not yet developed.

A very distinct species, which can scarcely be confounded with any described by authors. The head resembles the spike of a *Peperomia*.

PLATE XII. fig. 19. *Sphæria escharoidea*, nat. size.

49. *Sph. œdipus*, Mont. Jamaica. Herb. Mus. Brit.

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XLVI.—*Observations on a new Group, Genus and Subgenus, of Freshwater Confervæ, with descriptions of Species mostly new.* By ARTHUR HILL HASSALL, Esq., M.R.C.S.L. Corresponding Member of the Dublin Natural History Society.

[Concluded from p. 344.]

It now becomes necessary that I should make a few brief remarks upon the classifications of the younger Agardh and M. J. Decaisne, but only in so far as these have reference to the group *Vesiculaspermæ*.