

CONTRIBUTIONS TO THE BOTANY OF H.M.S. 'CHALLENGER.'

XXXVIII. Enumeration of the Fungi collected during the Expedition of H.M.S. 'Challenger,' 1874-75. By the Rev. M. J. BERKELEY, M.A., F.L.S. (Third Notice.)

[Read February 1, 1877.]

(Plate II.)

PENNANT HILLS, PARAMATTA. June 1874.

83. AGARICUS (AMANITA) VAGINATUS, *Bull.*

84. A. (ARMILLARIA) MELLEUS, *Fl. Dan.*, var. MINOR. Stipite transversim squamoso.

On dead wood.

It is very possible that this may be quite a distinct species; but in the absence of all indication as to colour, I am content to point out its affinities.

85. A. (FLAMMULA) SAPINEUS, *Fr. Hym. Eur.* p. 251.

This species in most cases probably occurs on imported deal, exactly as we have northern species on timbers in our railroads.

86. A. (PSALLIOTA) CAMPESTRIS, *L.*

87. A. (PANÆOLUS) CAMPANULATUS, *L.*

88. LACTARIUS SUBTOMENTOSUS, *B. & Rav. Ann. Nat. Hist.* Oct. 1859.

89. CANTHARELLUS CIBARIUS, *Fr. Hym. Eur.* p. 455.

90. C. CONCINNUS, *B.* Pusillus; stipite sursum incrassato, lamellis furcatis angustissimis; interstitiis lævibus.

Pileus $\frac{1}{2}$ inch across; stem $\frac{1}{2}$ inch high, 2 lines thick at the apex, half as much below.

91. MARASMIUS PRIMULINUS, *B.* Pileo e convexo explanato primulino, demum umbilicato pulverulento; margine striato; stipite brevi gracili furfuraceo; lamellis crassiusculis concoloribus.

Pileus $\frac{1}{2}$ inch across; stem $\frac{1}{2}$ inch high.

92. M. OPACUS, *B. & C. Hook. Journ.* 1849, p. 99.

93. LENTINUS FASCIATUS, *B. Hook. Lond. Journ.* 1840, p. 146.

94. PAXILLUS MÜLLERI, *B. Linn. Soc. Journ.* vol. xiii. p. 159.

95. SCHIZOPHYLLUM COMMUNE, *Fr. Hym. Eur.* p. 492.

96. BOLETUS SUBTOMENTOSUS, *L.*

97. B. ANANÆCEPS, *B. Linn. Soc. Journ.* vol. xiii. p. 161.

98. POLYPORUS (MESOPUS) OBLECTANS, *B. Hook. Lond. Journ.* 1845.

99. P. (PLEUROPIUS) RUGOSUS, *Nees, N. Act.* xii. tab. 7.

Sometimes the stem is central with a regular pileus; sometimes the pileus is very imperfectly developed and scarcely rugose.

100. POLYPORUS (PLEUROPIUS) SANGUINEUS, *Fr.*

101. P. (PLEUROPIUS) RHIPIDIUM, *B. Hook. Lond. Journ.* 1849, p. 319.

102. P. (PLEUROPIUS) PEROXYDATUS, *B.* *Tenuis suborbicularis, rubiginoso-pulverulentus; pileo leviter zonato rugoso; stipite brevi crasso; hymenio convexo ferrugineo; poris angulatis; contextu rhabarbarino.*

Pores $\frac{1}{96}$ inch in diameter. Colour of pileus like that of peroxide of iron.

103. P. (ANODERMEI) TEPHRONOTUS, *B. Fl. Tasm.* ii. p. 252.

104. P. (ANODERMEI) OCHROLEUCUS, *B. Hook. Lond. Journ.* 1845, p. 53.

105. P. (ANODERMEI) SEMIDIGITALIFORMIS, *B.* *Gregarius; pileo unguato e mycelio tomentoso oriundo albido rugoso tomentoso; poris majoribus, postice lamellatis.*

Scattered over the flat surface of dry wood. Pileus $\frac{1}{4}$ – $\frac{1}{3}$ inch wide; pores $\frac{1}{16}$ – $\frac{1}{36}$ inch in diameter. A very curious species which has sometimes a tendency to become imbricated.

106. P. (PLACODERMEI) PORTENTOSUS, *B. Hook. Lond. Journ.* 1844, p. 188.

107. P. (PLACODERMEI) AUSTRALIS, *Fr. El.* p. 103.

108. P. (INODERMEI) SCRUPOSUS, *Fr. Ep.* p. 473.

109. P. (INODERMEI) CINNABARINUS, *Fr. Syst. Myc.* p. 371.

110. P. (INODERMEI) LILACINO-GILVUS, *B. Ann. Nat. Hist.* iii. p. 324.

111. P. (RESUPINATI) OBLIQUUS, *Fr. Ep.* p. 482.

112. TRAMETES RIGIDA, *B. & Mont. Syll.* p. 168.

113. T. OCCIDENTALIS, *Fr.; Klotzsch, Linn.* viii. p. 486.

114. T. DEVEXA, *B. Linn. Soc. Journ.* xiii. p. 165.

115. T. MOLLIS, *Fr. Hym. Eur.* p. 585.

116. DÆDALEA GLABRESCENS, *B.* *Pulvinato-expansa crassa e scabro-tomentosa glabra zonata pallida, margine acuto, lamellis crassis rectis quandoque postice insigniter flexuosis.*

Pileus 6 inches wide, 3 long.

Allied to *D. tenuis*, but with far thicker gills.

117. HYDNUM (MESOPUS) NIGRUM, *Fr. Hym. Eur.* p. 605.

118. H. (RESUPINATUM) XANTHUM, *B. & C. Grevillea, Not. N.-Am. Fung.* p. 10, var. *Aculeis non compressis pendulis totum re-*

supinatum pallide aurantiacum ; aculeis subacutis e strato lætiore ceraceo oriundis.

119. STEREUM HIRSUTUM, *Fr. Hym. Eur.* p. 639.

120. S. ILLUDENS, *B. Hook. Lond. Journ.* 1845, p. 59.

121. CLAVARIA FLAVA, *Schæff.* ; *Fr. Hym. Eur.* p. 666.

122. C. BOTRYTIS, *P.* ; *Fr. Hym. Eur.* p. 667.

123. C. AUREA, *Schæff.* ; *Fr. Hym. Eur.* p. 670.

124. GUEPINIA SPATHULARIA, *Fr. El.* p. 32.

125. TREMELLA LUTESCENS, *P.* ; *Fr. Syst. Myc.* p. 213.

126. HYMENANGIUM MOSELEI, *B. & Br.* Suborbiculare basi attenuatum citrinum glabrum ; hymenio ochraceo basi distincta alba ; sporis ovatis apice attenuatis pedicellatis hyalinis lævibus.

About $\frac{1}{2}$ an inch in diameter ; spores $\cdot 0006$ inch long with one or sometimes two nuclei.

127. SEPEDONIUM CHRYSOSPERMUM, *Lk. Sp. i.* p. 29.

128. GEASTEE MINIMUS, *Schwein. Car.* p. 327.

129. G. SACCATUS, *Fr. Syst. Myc.* iii. p. 16.

130. G. DUBIUS, *B.* Peridio externo crasso globoso lævi subtiliter pulverulento cervino, centro depresso, demum aperto, mycelio substipitiformi suffulto ; floccis fuscis, sporis minimis lævibus globosis.

About $\frac{1}{2}$ an inch in diameter ; outer peridium, when dry, consisting of two distinct layers, while the mass of flocci and spores is surrounded by a thin inner peridium. As far as appears from the specimens, the outer peridium does not become stellate.

131. TRICHODERMA VIRIDE, *P.*

The conidiiferous state of *Hypocrea rufa*.

TONGATABU. July 1874.

132. POLYPORUS (PLEUROPUS) AMBOINENSIS, *Fr. Ep.* p. 442.

A stemless form on cocoa-nut stems.

133. TRAMETES MOSELEI, *B.* Imbricatus ; pileis reniformibus vertice affixis spadiceis marginem versus lætioribus rubiginosis, repetite zonatis lineato-rugosis ; contextu albo.

Pileus 3 inches across, 2 long ; pores $\frac{1}{8}$ inch in diameter.

Has somewhat the appearance of *P. Persoonii*. A very noble species.

134. COPRINUS NYCTHEMERUS, *Bull. Fr. Ep.* p. 251.

API (NEW HEBRIDES). Aug. 18, 1874.

135. SCHIZOPHYLLUM COMMUNE, *Fr. Ep.* 403.

136. POLYPORUS (PLACODERMEI) AUSTRALIS, *Fr. Ep.* p. 464, var. APPLANATA.

Pores not stratose; flesh without harder parallel layers, as in the form from Ternate.

137. HIRNEOLA POLYTRICHA, *Mont.*; *Fr. Fung. Nat.* p. 26.

SOMERSET, CAPE YORK. Sept. 1-8, 1874.

138. POLYPORUS (MESOPUS) XANTHOPUS, *Fr. Obs.* ii. p. 255.

139. P. (MESOPUS) DICTYOPUS, *Monf. Ann. Sc. Nat.* 135, iii. p. 349.

140. P. (ANODERMEI) FŒDATUS, *B.* Pileo subtenui reniformi azono umbrino fuliginoso; marginē pallido radiato-rugoso sterili; contextu pallido sericeo; poris punctiformibus acie obtusis pallide cinnamomeis.

Pileus 3 inches across, $1\frac{1}{2}$ -2 inches long; pores $\frac{1}{8}$ inch in diameter.

141. P. (PLACODERMEI) INCRASSATUS, *B.* Durus reniformis; pileo primum tenui azono, demum incrassato rugoso marginem versus repetite zonato pulverulento coffeato; cuticula dura; hymenio cinnamomeo; margine demum sterili sulcato; contextu ferrugineo; poris punctiformibus, dissepimentis obtusis rigidis.

Pileus 3 inches across; pores $\frac{1}{4}$ inch in diameter.

142. HEXAGONA TENUIS, *Fr. Ep.* p. 498.

143. STEREUM PROLIFICANS, *B.* Gregarium infundibuliforme, stipite brevissimo; pileo sulcato-zonato velutino spadiceo; hymenio lævi plicato nitido brunneo.

Pileus 2 inches across, 1 inch high, with a number of young infundibuliform pilei at the base with the hymenium superior or reniform, attached by a distinct orbicular base, repeatedly zoned and sulcate, of a rich brown; hymenium dark brown, sometimes slightly zoned.

144. HIRNEOLA RUFA, *B. Ann. Nat. Hist.* vol. x. p. 384.

"These fungi were all found in the dry condition, being collected in the dry season. Some are attacked by an insect-larva whose dung takes the form of a curious fluffy mass."

ARU. Sept. 22, 1874.

145. AGARICUS (FLAMMULA) SAPINEUS, *Fr. Hym. Eur.* p. 251.

146. A. (PANÆOLUS) CAMPANULATUS, *L.*

147. MARASMIUS ARUENSIS, *B.* Pileo centro depresso fulvo

subtiliter pulverulento ; stipite gracili e basi crassiuscula oriundo e fulvo brunneo ; lamellis fulvis.

Pileus $\frac{1}{2}$ -1 inch wide ; stem $\frac{1}{3}$ -1 $\frac{1}{2}$ inch high.

148. MARASMIUS ALEUROCEPHALUS, *B.* Pileo convexo aleuriato rugoso-plicato fulvo ; stipite compresso brunneo basi incrassato.

Pileus $\frac{1}{4}$ inch across ; stem $\frac{1}{2}$ inch high.

Specimens few and in bad condition.

149. *M. DIREPTUS*, *B.* Pusillus albidus rugosissimus ; pileo primum horizontali demum reflexo ; stipite centrali direpto ; lamellis paucis adnatis crassiusculis acie obtusis.

About 1 $\frac{1}{2}$ line across ; stem torn off, as the pileus is turned back and left in the centre ; the rugose crumpled pileus, under a lens, is very peculiar.

150. LENTINUS LEVEILLEI, *B. Linn. Tr.* xx. p. 112, and a small variety.

151. *L. HOOKERIANUS*, *B. Hook. Journ.* 1851, p. 44.

152. *L. STRIGOSUS*, *B. Fr. Fl.* p. 47.

153. POLYPORUS (MESOPUS) XANTHOPUS, *Fr. Obs.* ii. p. 285.

154. *P. (PLEUROPUS) AFFINIS*, *Nees, Fr. Ep.* p. 445.

155. *P. (PLEUROPUS) COCHLEAR*, *Nees, Act. Nat. Cur.* xiii. tab. 6.

156. *P. (PLEUROPUS) LUTEUS*, *Nees, Fr. Ep.* p. 445.

157. *P. (PLEUROPUS) MELEAGRIS*, *B.* Pileo flabelliformi stipite brevissimo affixo zonato radiato lineato brunneolo ; margine lobato acutissimo quandoque striato ; hymenio e pallido umbrino ; poris angulatis hic illic sinuatis, dissepimentis rigidiusculis.

Pileus 2-3 inches across, 1 $\frac{1}{2}$ long ; pores $\frac{1}{108}$ in diameter. Sometimes infundibuliform. There is a variety (a single specimen only) with a longer stem which is slightly laccate.

158. *P. (ANODERMEI) ARMENIACUS*, *B. Hook. Journ.* 1856, p. 197 ; *P. armeniacus*, *Eng. Fl.* is *P. amorphus*.

159. *P. (ANODERMEI) ABRUPTUS*, *B.* Durissimus imbricatus reviviscens ; pileo lignicolori hic illic rufescente glabrato ; hymenio noduloso, juniore pallido, seniore pallescente ; poris punctiformibus.

Pilei by confluence 2-3 inches across, adnate, and decurrent behind, very rigid, the hymenium reproduced irregularly and nodulose. A coarse species.

160. *P. (PLACODERMEI) AUSTRALIS*, *Fr. Ep.* p. 464. A small form.

161. *P. (PLACODERMEI) ZONALIS*, *B. Hook. Lond. Journ.* 1847, p. 504.

162. *P. (PLACODERMEI) SENEX*, *N. & Mont. Syll.* p. 160.

163. P. (PLACODERMEI) ARUENSIS, *B.* Pileo dimidiato tenui sulcato-zonato radiato-rugoso primum pulverulento brunneo, margine tenuiori; hymenio concolori; poris demum elongatis; contextu ferrugineo.

Pileus 2 inches across, $1\frac{1}{2}$ long; pores $\frac{1}{80}$ inch in diameter.

164. POLYPORUS (INODERMEI) SCRUPOSUS, *Fr. Ep.* p. 473. var. Pileo duro renifermi velutino repetite sulcato-zonato umbrino contextu rhabarbarino.

165. P. (INODERMEI) TABACINUS, *Mont. Ann. Sc. Nat.* 1835, iii. p. 349.

166. P. (INODERMEI) FLORIDANUS, *B. Ann. Nat. Hist.* x. p. 376.

167. TRAMETES OCCIDENTALIS, *Fr.*; *Klotzsch, Linn.* viii. p. 486.

168. T. COGNATUS, *B.* Pileo dimidiato sulcato-zonato subtiliter scabroso-tomentoso postice glabrescente ochraceo; hymenio plano, poris punctiformibus acie subtiliter tomentosis.

Pileus $1\frac{1}{2}$ inch across, 1 inch long; pores $\frac{1}{80}$ in diameter. Externally resembling *F. Mülleri*, *B.*; but the pores are very different.

169. T. BICOLOR, *B.* Pileo reniformi lobato postice sanguineo, antice pallido ruguloso; hymenio umbrino; poris e subhexagonis elongatis; contextu pallido.

Pileus 2 inches across, 1 inch long; pores $\frac{1}{80}$ inch in diameter.

170. HEXAGONA ARATA, *B.* Tenuis rigidiuscula imbricata dimidiata v. flabelliformis regulariter sulcato-zonata scabroso-tomentosa umbrinella; hymenio e luteo-umbrino cinnamomeo; poris dentatis.

Pores $\frac{1}{48}$ inch in diameter. Allied to *H. sericea*.

171. HEXAGONA AFFINIS, *B. Lond. Journ.* 1843, p. 4.

172. FAVOLUS SACCHARINUS, *B.* Pileo flabelliformi sessili subtiliter velutino glabrescente; poris sinuatis flexuosis.

Pileus $\frac{1}{2}$ -1 inch across, at first very minutely velvety so as to have a saccharine appearance; pores arranged in lines proceeding from a common base.

173. F. BRASILIENSIS, *Fr. Ep.* p. 498.

174. LASCHIA LONGIPES, *B.* Pileo tenui umbilicato pallide aurantiaco, margine lobato; stipite elongato sursum dilatato fissili; poris brevibus angustis sinuatis radiantibus.

About 1 inch across; stem 2 inches high, not 1 line thick. Specimen bad, but very distinct.

175. LENZITES APPLANATA, *Fr. Ep.* p. 404.

176. DEDALEA INDURATA, *B.* Pileo albido, disco parvo affixo radiato-rugoso marginem versus zonato; hymenio ochroleuco; poris minutis sinuosis.

Pileus $1\frac{1}{2}$ inch across, 1 long; pores $\frac{1}{60}$ inch in diameter. A very distinct species, of which there is a single specimen only.

177. *IRPEX MAXIMUS*, *Mont. Syll.* p. 174.

178. *STEREUM LOBATUM*, *Fr. Ep.* p. 547.

179. *S. VESPILLONEUM*, *B.* Tenue flabelliforme vertice parvo orbiculari affixo; pileo badio rufo zonato velutino; hymenio badio, margine sterili pallido.

Pileus $2\frac{1}{2}$ -3 inches across, 2 long, then repeatedly zoned velvety with a few dark, nearly smooth interstices.

180. *S. EFFUSUM*, *B.* Pallidum margine inflexo lacerato-lobato, lineato pulverulento; hymenio lineato.

Pileus by confluence 3 inches wide. Pileus sometimes scarcely lineate, and then more pulverulent.

181. *S. INDURATUM*, *B.* Durissimum conchiforme concentricè sulcatum velutinum; hymenio lævi subtiliter pulverulento, contextu rhabarbarino.

Pileus 3 inches across. Distinguished at once by its very hard thick substance from *S. ostreatum* and its allies.

182. *THELEPHORA LAMELLATA*, *B. U.S. Exp. Exp. tab. Fungi*, fig. 7.

There is also a specimen in the collection from Taviuni given by Dr. Good, of H.M.S. 'Dido.'

183. *LACHNOCLADIUM FURCELLATUM*, *Lév. Ann. Sc. Nat.* 1846, v. p. 159.

184. *L. SEMIVESTITUM*, *B. & C. Grevillea, Not. N.-Am. Fungi*, no. 226.

185. *HIRNEOLA RUFA*, *B. Ann. Nat. Hist.* x. p. 384.

186. *PEZIZA HINDSII*, *B. Lond. Journ.* 1842, p. 456.

187. *XYLARIA PILICEPS*, *B.* Clavula subturbinata coffeata rimosa molli fragili ostiolis subprominulis punctata; stipite gracili concolori laccato rimoso, contextu pallido.

Stem $1\frac{1}{4}$ inch high; head $\frac{1}{2}$ inch high, $\frac{1}{3}$ wide. I find no sporidia.

188. *HYPOXYLON CONCENTRICUM*, *Grev. t.* 324.

TERNATE (MOLUCCAS). Oct. 1874.

189. *POLYPORUS (PLACODERMA) AUSTRALIS*, *Fr.*, var. *APPLANATA*. Pores not strato-se. The soft dark substance of the pileus has harder strata intermixed.

190. *HEXAGONA POLYGRAMMA*, *Mont. Syll.* p. 169.

A form with smaller pores $\frac{1}{45}$ inch in diameter instead of $\frac{1}{4}$.

191. POLYPORUS (INODERMEI) RUSSOGRAMME, *B.* Umbone affixus spadiceo-rufus coriaceo-mollis rigescens; pileis imbricatis subzonatis radiato-lineatis, margine acutissimo tenui lacerato; poris irregularibus; dissepimentis acutis tenuibus dentatis flexuosis.

Pores $\frac{1}{4}$ inch in diameter.

LITTLE KÉ. Sept. 24.

192. P. (PLEUROPUS) SANGUINEUS, *Fr.*

193. P. (PLACODERMEI) PERSOONII, *Fr.*—*Dadalea sanguinea*, *Kl. l. c.* p. 481.

194. TRAMETES OCCIDENTALIS, *Fr.*

195. HYPOXYLON VERNICOSUM, *Fr. Summ.*

CAMIGUIN, MALANIPA, MALAMON (Philippines).

Jan. 30–Feb. 4, 1875.

196. LENTINUS LEVEILLEI, *B. Tr. Linn. Soc.* xv. tab. 9. fig. 5. Camiguin. Originally from Surinam.

197. L. ABNORMIS, *B.* Gregarius cæspitosus; pileo tenui infundibuliformi hispidulo; margine tenui lobato; stipitibus elongatis luteis furfuraceis e basi orbiculari confluentibus, sursum dilatatis; lamellis angustissimis decurrentibus integris.

Pilei 1–2 inches across, stem 3 inches high, 1–2 lines thick, orbicular base $\frac{1}{3}$ inch.

Malamon.

198. L. EXILIS, *Kl.*; *Fr. Syn. Lent.* p. 10; *Ep.* p. 393. Pileus $2\frac{1}{2}$ –3 inches across, deeply umbilicate, virgate, smooth, margin incurved, stem 1 inch high, ending abruptly as if there had been a trace of a ring, above which the space, which is really part of the pileus, is quite smooth and even, marked only with the trace of the gills, which are very narrow and decurrent, very minutely toothed and echinulato-glandulose. Malanipa.

199. SCHIZOPHYLLUM COMMUNE, *N.*

Malanipa, Camiguin.

200. POLYPORUS (MESOPUS) XANTHOPUS, *Fr.*

Malanipa, Malamon.

201. P. (MESOPUS) GRAMMOCEPHALUS, *B.*

Malamon.

202. P. (PLEUROPUS) AFFINIS, *Nees.*

Malanipa, Malamon.

203. POLYPORUS (PLEUROPUS) LUCIDUS, *Fr. Ep.* p. 442.

Malanipa.

204. P. (PLEUROPUS) GIBBOSUS, *Nees; Fr. Ep.* p. 443.

Malanipa.

205. P. (PLEUROPUS) SANGUINEUS, *Fr.*

Malamon, Camiguin.

206. P. (ANODERMEI) LATICOLOR, *B.* Pileo dimidiato postice leviter decurrente armeniaco rugoso subtiliter velutino, margine tenui irregulariter lobato; contextu molli cinnabarino, primum armeniaco; hymenio cinnamomeo, margine ochroleuco; poris minutis acie acutis.

Pileus 3 inches wide, 2 long; pores $\frac{1}{2}$ in diameter. Looks at first like a thin state of *Polyporus ulnarius*.

Malamon.

207. P. (ANODERMEI) OSTREIFORMIS, *B.* Imbricatus albidus; pileo dimidiato tomentoso postice innato-fibroso rugoso, margine acuto; hymenio plano; poris angulatis, dissepimentis tenuibus acie integris.

Pilei $1\frac{1}{2}$ inch across, 1 long; pores $\frac{1}{10}$ inch in diameter, substance brittle, rigid when dry.

Malanipa.

208. P. (PLACODERMEI) ZONALIS, *Tr.*

Malamon.

VAR. SEMILACCATUS. Pileo reniformi rigido postice laccato rufo decurrente, antice pallido zonato rugoso; hymenio pallido; poris punctiformibus; contextu pallido.

Pileus 3 inches across, 1 long; pores $\frac{1}{10}$.

Malamon. The species is extremely variable.

209. P. (PLACODERMEI) CALIGINOSUS, *B.* Pileo tenui rigido sæpe longe decurrente zonato lineato-rugoso atrobrunneo; margine acuto crenato-lobato; contextu hymenioque ferrugineo; poris minutis.

Pileus 5-6 inches wide, $3\frac{1}{2}$ long; zones narrow, sometimes projecting in a scalariform manner, as if the growth were at times suddenly arrested; pores smaller than in *P. australis*, and not merely punctiform, stratose. In one specimen fixed by the vertex the pileus is still decurrent. Malamon.

210. P. (PLACODERMEI) SENEX, *Mont.* Very old and cracked.

Malanipa.

211. P. (PLACODERMEI) ENDOTHEIUS, *B.* Pileo unguolato fulvo

pulverulento-velutino; contextu duro sulphureo; hymenio pallide umbrino; poris punctiformibus.

Pileus 2 inches across, $1\frac{1}{2}$ long, 2 high. Malanipa.

Allied to *P. igniarius*. Pileus with two or three obtuse convex ridges.

212. POLYPORUS (PLACODERMEI) IGNIARIUS. Malamon.

213. P. (PLACODERMEI) PECTINATUS, *Klotzsch, l. c.* p. 485.

Apparently so old as not to show the rhubarb-coloured hymenium. In Klotzsch's original specimens, however, and also in that from Cuba, the old hymenium is brown.

Malamon.

214. P. (INODERMEI) CAPERATUS, *B. Ann. Nat. Hist.* x. p. 391.

Malanipa.

215. TRAMETES CONCHATUS, *B.* Pileo pallide umbrino-ochroleuco sulcato-zonato subtiliter tomentosus; contextu pallido sericeo; poris angulatis umbrinis.

Pileus nearly 6 inches across, 3 long; pores $\frac{1}{8}$ in diameter.

Allied to *T. lactineus*, *B.*; but the pores are wider and the dissepiments not so rigid and obtuse. They are evidently, when fresh, of a much softer consistence, so that they contract when dry.

Malanipa.

216. T. MOLLIS, *Fr. Hym. Eur.* p. 585.

Malanipa.

217. T. OCCIDENTALIS, *Fr.*

Malamon.

218. HEXAGONA CRINIGERA, *Fr. Fung. Guin.* f. 10.

Pores $\frac{1}{12}$ — $\frac{1}{8}$ inch in diameter. There is a variety with smaller pores quite devoid of bristles.

Malanipa, Malamon.

219. H. ALBIDA, *B.* Disco orbiculari affixa; pileo reniformi leviter sulcato-zonato ruguloso scabro, margine acuto; poris subflexuosis intus scabris pallidis.

Pileus $2\frac{1}{2}$ inch across, $1\frac{1}{2}$ long; pores $\frac{1}{16}$ in diameter.

Intermediate between *Hexagona* and *Daedalea*. Though the pores are flexuous, there is not the slightest tendency to radiate.

Malamon.

220. H. FLABELLIFORMIS, *B.* Pileo tenui flabelliformi rufulo radiato-lineato subtiliter et sparsim velutino glabrescente; poris demum elongatis amplis setulosis.

Small but distinct. Pores $\frac{1}{8}$ inch in diameter.

221. H. CLADOPHORA, *B.* Pileo primum processibus molariibus rugoso, interstitiis bombycinis, demum læviore scabroso

rufulo, siccato contracto; poris demum elongatis dissepimentis obtusis.

Pileus $2\frac{1}{2}$ inch wide, 1 inch long; pores $\frac{1}{18}$ inch in diameter.

This is a very curious species, and may possibly be nearer allied to *Merulius*.

Malamon.

222. *FAVOLUS SCABER*, B., and var. *PLATYPORUS*, *Journ. Linn. Soc.* xiv. p. 57.

Malamon, Malanipa.

223. *LENZITES APPLANATA*, *Fr.*

Little Ké.

224. *IRPEX ZONATUS*, *B. Hook. Lond. Journ.* 1845, p. 168.

Malanipa.

225. *STEREUM OSTREA*, *Nees; Fr. El.* p. 175.

Malanipa.

226. *S. MOSELEI*, *B.* Pileo ex infundibuliformi flabellato subtiliter velutino subzonato cervino, margine pallidiore; stipite e basi parva oriundo opaco pallido; hymenio rufulo.

Pileus about $\frac{1}{2}$ an inch across; stem $\frac{1}{4}$ inch high; sometimes several spring from the same confluent base; stem occasionally of the same colour with the hymenium.

Malamon, upon sticks.

227. *HIRNEOLA RUFA*, *B.*

Little Ké.

228. *XYLARIA HYPOXYLON*, *Grev. Fl. Ed.* p. 355.

A minute form with sporidia $\frac{1}{100}$ inch in diameter.

Malanipa.

ADMIRALTY ISLANDS. March 1875.

229. *AGARICUS (PLEUROTUS) SCABRIUSCULUS*, *B.* Conchiformis postice depressus, pileo subtiliter pulverulento-tomentoso demum leviter radiato-plicato; stipite brevissimo laterali cylindrico quandoque applanato; lamellis decurrentibus nec postice porosis integris.

Pileus 1-2 inches wide, an inch or more long, soft and pliant, when dry, of an ochraceous tint.

230. *A. (PLEUROTUS) LACHNOCEPHALUS*, *B.* Pileo excentrico tenui campanulato subtiliter velutino saccharino rufo umbilicato sulcato; stipite cylindrico pulverulento e basi orbiculari albo oriundo; lamellis latiusculis decurrentibus.

About $\frac{1}{3}$ inch across; stem $\frac{1}{4}$ inch high, not 1 line thick.

There is a form with a longer, less excentric stem, which has the appearance of a *Marasmius*.

231. *AGARICUS* (*PLEUROTUS*) *SEMISUPINUS*, *B. & Br. Journ. Linn. Soc.* xi. p. 529.

232. *MARASMIUS FULVICEPS*, *B. Hook. Lond. Journ.* 1847, p. 490.

233. *M. HISPIDULUS*, *B.* Pileo e convexo explanato fulvo hispido; stipite gracili deorsum albo-furfuraceo, sursum primitus subtiliter velutino brunneo; lamellis ventricosis adnatis.

Pileus 2-3 lines across; stems $\frac{1}{3}$ - $\frac{1}{2}$ inch high.

There is also a barren *Marasmius* on *Trichomanes javanicus*.

234. *LENTINUS HYGROMETRICUS*, *B.* Pileo infundibuliformi, subtiliter tomentoso lineato, margine exsiccato lobato inflexo; stipite gracili sursum dilatato furfuraceo glabrescente; lamellis angustissimis decurrentibus.

Scattered on blackened dead wood.

Pileus $\frac{3}{4}$ inch across when expanded; stem 1 inch high, not a line thick.

235. *L. VILLOSUS*, *Fr. Ep.* p. 388.

336. *POLYPORUS* (*MESOPUS*) *XANTHOPUS*, *Fr.*

237. *P.* (*PLEUROPUS*) *AFFINIS*, *Nees.*

238. *P.* (*PLEUROPUS*) *SANGUINEUS*, *Fr.*

239. *P.* (*MESOPUS*) *GRAMMOCEPHALUS*, *B.*

240. *P.* (*PLEUROPUS*) *ELEGANS*, *Fr. Ep.* p. 440.

241. *P.* (*PLEUROPUS*) *RASIPES*, *B.* Pileo flabelliformi conchato sericeo lineato subvelutino zonato rufo, exsiccato incurvo; stipite brevi applanato hispidulo; hymenio pallido; poris minutis angulatis, dissepimentis tenuibus.

Pileus $\frac{3}{4}$ -1 inch across; stem $\frac{1}{4}$ inch high, dilated upwards; pores $\frac{1}{200}$ in diameter. Much contracted when dry. The short hairs on the stem sometimes pointing upwards.

242. *P.* (*PLEUROPUS*) *STEREINUS*, *B. & C. Linn. Soc. Journ.* x. p. 308.

243. *P.* (*PLACODERMEI*) *IGNIARIUS*, *Fr.*

244. *P.* (*PLACODERMEI*) *AUSTRALIS*, *Fr.*

245. *P.* (*PLACODERMEI*) *EXOTEPHRUS*, *B.* Durus; pileo sulcato zonato, primitus subtiliter tomentoso glabrescente, margine sulcato prominulo obtuso lobato; contextu ligni colore; poris brunneo-ferrugineis minutis.

Pileus $2\frac{1}{4}$ inch wide.

Has somewhat the appearance of *P. caliginosus*, *B.*; but the flesh is pallid, not deeply ferruginous.

246. POLYPORUS (PLACODERMEI) CALIGINOSUS, *B.*

247. *P.* (PLACODERMEI) PERSOONII, *Fr.*

248. TRAMETES OCCIDENTALIS, *Fr.*

249. *T. LACTINEUS*, *B.*

250. HEXAGONA AFFINIS, *B.*

251. *H. PICTA*, *B.* Pileo dimidiato, postice sanguineo-rufo, antice pallido, lineato-ruguloso plicato, primum pulverulento; hymenio umbrino; poris hic illic margine undulatis.

Pileus $2\frac{1}{2}$ -3 inches wide, $\frac{3}{4}$ inch long; pores $\frac{1}{2}$ l.

252. LASCHIA TREMELLOSA, *Fr.*

253. STEREUM ELEGANS, *Fr. Ep.* p. 545.

254. THELEPHORA LAMELLATA, *B.*

255. HIRNEOLA POLYTRICHA, *Mont.*

256. *H. RUFa*, *B.*

257. PEZIZA HINDSII, *B.*

"The largest, very thin specimens, from the base of littoral trees, were constantly being bathed and often immersed in sea-water."

JAPAN*. April 28, 1875.

258. AGARICUS (ARMILLARIA) EDODES, *B.* Pileo carnoso convexo fusco; stipite solido cylindrico e basi crassa orbiculari oriundo; annulo angusto; lamellis postice rotundatis.

Commonly eaten in Japan and exposed for sale in large quantities in the shops. Japanese name *Shi-taki*.

* The following interesting Japanese species have been received from Mr F. V. Dickins:—

a. AGARICUS (PLEUROPUS) GUEPINIFORMIS, *B.* Pileo spathulato fisso; strato superiore gelatinoso laticolori croceo; lamellis decurrentibus concoloribus.

About 1 inch long, $\frac{3}{4}$ -1 inch wide.

b. AGARICUS (PLEUROPUS) SUBFUNEREUS, *B.* Pileo spathulato palumbino glabro e stipite candido cylindraceo ramoso oriundo; lamellis tenuibus integris lineato-decurrentibus pallidis.

Pileus $\frac{1}{2}$ - $\frac{3}{4}$ inch wide, 1 inch long; stem $\frac{1}{2}$ inch high, 1 line thick.

c. CANTHARELLUS FLABELLATUS, *B.* Pileo flabelliformi, postice elongato, attenuato, radiato-rugoso, tenui; lamellis angustis dichotomis sinuatis.

Pileus $1\frac{1}{2}$ inch across, $2\frac{1}{2}$ long, the attenuated stem-like base sometimes branched.

d. POLYPORUS (PLEUROPUS) VERNICIPES, *B.* Pileo tenui conchiformi pallido zonato crenato subplicato radiato-striatulo zonis umbrinis picto; stipite brevissimo polito poris albis.

Pileus $1\frac{1}{2}$ inch wide, 1 long; pores $\frac{1}{10}$ inch in diameter.

e. *P.* (PLEUROPUS) DICKINSII, *B.* Pileo tenui papyraceo spathulato, basi sti-

259. A. (FLAMMULA) MICROMEGAS, *B.* Pusillus, pileo e convexo depresso glaberrimo fulvo; stipite tenui obscuriore; lamellis umbrinis ventricosis adnexis vel leviter adnatis.

On decayed wood.

The dried specimens have a very rigid appearance, so as to resemble at first sight some small *Polyporus*.

Pileus $\frac{1}{3}$ inch across; stem $\frac{1}{2}$ inch high.

260. POLYPORUS (PLEUROPUS) RUFESCENS, *Fr.* A resupinate form.

261. P. (ANODERMEI) ADUSTUS, *Fr. Syst. Myc.* p. 456.

262. P. (PLACODERMEI) PORTENTOSUS, *B.*

263. P. (INODERMEI) SUBPELLUCIDUS, *B.* Imbricatus; pileis tenuibus lobatis sericeo-hirsutis leviter zonatis; hymenio e pallido brunneo; poris parvis dentatis, dissepimentis cartilagineis.

Pileus $\frac{1}{4}$ inch in diameter.

Attached to the delicate stems of some climbing herb, densely imbricated.

264. POLYPORUS (INODERMEI) ELONGATUS, *B. Hook. Lond. Journ.* 1842, p. 149.

265. P. (INODERMEI) VERSICOLOR, *Fr.*

266. DEDALEA UNICOLOR, *Fr.*

267. IPEX CONSOBS, *B.* Imbricato-reflexus; pileis pulverulento-tomentosis mox glabrescentibus leviter zonatis; dentibus compressis umbrinis apice candidis.

Spreading for several inches, and then putting out either at the edges or from the hymenium a multitude of imbricated pilei, which are at first slightly tomentose, but then smooth with one or two zones; teeth umber, compressed, pallid at the tips.

pitiformi angustato, subtiliter tomentoso glabrescente, hic illic fisso, poris amplis brevibus sinuatis decurrentibus, margine inflexo.

Pileus dirty white, 2 $\frac{1}{2}$ inches wide, 3 inches long; pores $\frac{1}{8}$ in diameter.

f. P. (INODERMEI) POCAS, *B.* Pileo reniformi, vertice affixo, leviter zonato, villis radiantibus ornato, postice leviter decurrente, margine tenui ochroleuco acuto sterili; hymenio pallido, postice cinerascente; poris punctiformibus acie obtusissimis.

Pileus 2 $\frac{1}{2}$ inches long, 1 inch wide. Resembles externally *P. vellereus*, *B.*; but the pores are very different.

g. HYDNUM OLIDUM, *B.* Stipite brevi centrali impolito; pileo zonato floccis lineari-fasciculatis squamoso cinerascente; aculeis elongatis sporisque pallidis.

Pileus 2 inches across; stem collecting leaves by means of its floccose surface; mycelium delicate. Colour at first apparently greenish, but dark cinereous when old. Smell strong, like that of melilot. Agreeing with *H. graveolens* in its smell and dirty-white spores.

268. *STEREUM CONTRARIUM*, *B.* Rigidum conchiforme; pileo nigro zonato hispido, hic illic glabrescente, margine pallido, hymenio candido revivescente.

269. *PUCCINIA CORTICIOIDES*, *B. & Br.* Soris confluentibus armeniaticis; sporis pellucidis subellipticis, centro demum contractis; pedicellis longissimis. (Pl. II. figs. 7, 8.)

On the stems of some large Graminea, probably *Arundinaria*. Kobé, Nippon. At first appearing under the form of little tawny specks; at length forming apricot-coloured patches, which assume the form of some *Corticium*; pedicels .007-.008 inch long; spores .0008-.001 long, globose when young. The specimens do not give sufficient information to trace the whole life-history of certainly the most curious species of the genus.

270. *UROMYCES DEFORMANS*, *B. & Br.* In apicibus disciformibus pedunculorum situs; peridio operculiformi; sporis obovatis, margine striatis, albis. (Pl. II. figs. 1-6.)

On the disciform tips of the branchlets of "broussins" in *Thuja dolabrata*. Hakone. Peridium operculiform, shining, pale fawn-coloured; spores springing from a reticulated mass on distinct pedicels, obovate, with a striated border, .0015-.002 inch long. Curious as this fungus is, there does not seem to be any character by which it can safely be separated from *Uromyces*. The processes on which the *Uromyces* is developed seem rather to be transformations of branchlets than multiplication of fruit-stalks.

271. *USTILAGO CARBO*, *Tul.*

Whole crops were often seen affected with the *Ustilago* on a journey along the Tokaido from Kioto to Yokohama, May 1-10.

TAHITI. Sept. 24, 1875.

272. *POLYPORUS (PLEUROPUS) LUCIDUS*, *Fr.*

273. *P. (RESUPINATI) BENETOSTUS*, *B.* Late effusus, subtus margineque albidus; hymenio spadiceo areolato-fisso; poris minutis.

Widely effused, three or four inches across, at first orbicular, dirty white, with a membranous not byssoid margin. Hymenium the colour of lightly toasted bread, cracked into distinct fascicles of tubes after the manner of *Radulum quercinum*; pores about $\frac{1}{20}$ inch in diameter.

274. *HIRNEOLA POLYTRICHA*, *Mont.* Feb. 1876.

JUAN FERNANDEZ. Nov. 13-15, 1875.

275. *XEROTUS TENER*, *B. & Br. Journ. Linn. Soc.* xiv. p. 45.

276. XEROTUS BERTIERII, *Mont. Syll.* p. 151.

277. POLYPORUS (ANODERMEI) ADUSTUS, *Fr.*

278. P. (PLACODERMEI) AUSTRALIS, *Fr.*

279. P. (PLACODERMEI) SCANSILIS, *B.* Levis, pileo pulvinato brunneo repetite profunde sulcato-costato coffeato; cuticula tenui rigida; contextu crasso candido fibroso in poros brunneos punctiformes desinente.

Several inches across, attached behind; pileus with prominent ridges all round. The light white substance consists of vertical fibres, which end in the deep umber tubes, whose orifices are punctiform with flat interstices.

280. P. (INODERMEI) HIRSUTUS, *Fr. Ep.* p. 477.

Some of the specimens are very thick and rigid, sometimes nearly smooth, and if there were no intermediate forms might be considered distinct.

281. MERULIUS CORIUM, *Fr. El.* p. 55.

282. CORA PAVONIA, *Fr. Ep.* p. 556.

ADDENDUM.

The subjoined fungi have nothing to do with the 'Challenger' collection; but they are inserted here as gathered in an island situated in nearly the same latitude as one visited by the Expedition.

LORD HOWE'S ISLAND.

Fungi communicated by J. P. Fullager.

α. SCHIZOPHYLLUM COMMUNE, *Fr.*

On decayed Palm-stems.

β. HIRNEOLA POLYTRICHA, *Mont.*

γ. POLYPORUS (PLEUROPUS) FLABELLIFORMIS, *Klotzsch in Linn.* viii. p. 483.

δ. P. (PLEUROPUS) SANGUINEUS, *Fr.*

ε. P. (INODERMEI) ARATUS, *B.* Luteo-olivaceus; pileo dimidiato subimbricato flexili concentricè sulcato nitido glabrato; margine tenuissimo, subtus sterili; contextu concolori; poris parvis rigidiusculis saturatoribus.

Pileus $3\frac{1}{2}$ –4 inches wide, 3 inches long, smooth and shining when fully developed, flexible; pores subhexagonal, about $\frac{1}{7}$ inch in diameter. I have a *Polyporus* from Brisbane communicated by

Mr. Broome (*P. luteo-olivaceus*, B. & Br.), which at first sight looks very like this ; but instead of being flexible it is hard and coriaceous, while the pores, which are smaller, are deep umber and punctiform.

ζ. *P. (PLACODERMEI) FULLAGERI*, B. Durissimus ; pileo pulvinato, postice nigrescenti-brunneo, antice subtiliter velutino rhabbarino rugoso parce sulcato ; vertice elongato ; contextu fulvo ; poris minutissimis.

Pileus $3\frac{1}{4}$ inches wide, $1\frac{3}{4}$ long, $1\frac{1}{2}$ high, with elongated vertex ; pores $\frac{1}{16}$ inch in diameter. Very hard, cracked behind with two or three concentric grooves.

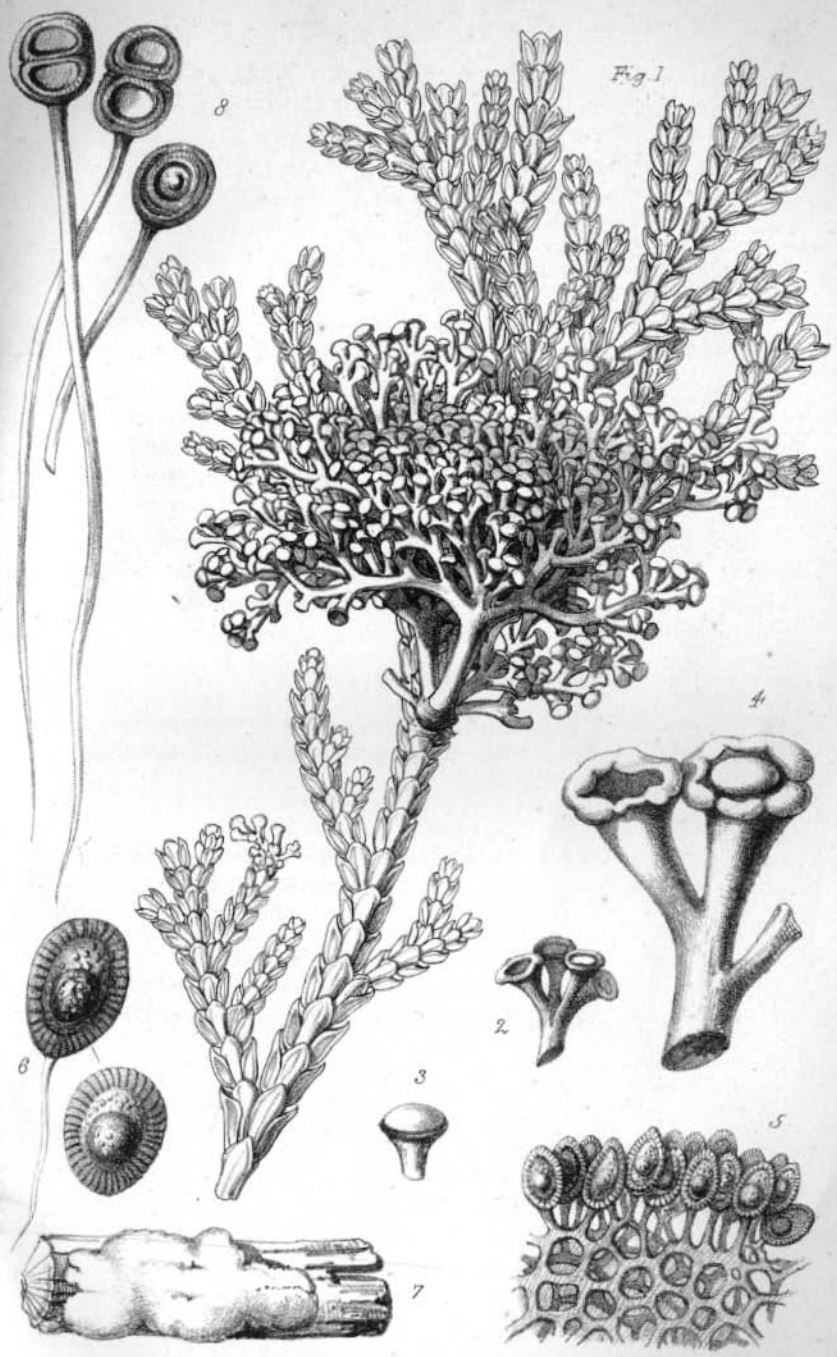
η. *HEXAGONA RIGIDA*, B. Dimidiata, postice decurrens, rigida ; pileo umbrino concentric zonato-sulcato radiato ruguloso glabrescente ; margine sulcisque elevatis subtiliter tomentosis ; hymenio pallido ; poris magnis.

Pileus 3 inches wide, or 6 by confluence, 2 long ; pores $\frac{1}{12}$ — $\frac{1}{16}$ in diameter. When fully developed quite smooth, cream-coloured within. There is a variety with slightly narrower pores and lobed margin ; also a bleached state just intermediate.

DESCRIPTION OF PLATE II.

Fig. 1. Sketch of a spray of *Thuja dolabrata*, with the *Uromyces deformans*, B. & Br., *in situ*. Drawn from a specimen in the Kew Herbarium, and of the natural dimensions.

2. Branchlets from which the *Uromyces* has fallen, but enlarged.
 3. One with the peridium perfect ; still more enlarged.
 4. Branchlets with and without fungus ; very considerably magnified.
 5. A view of the spores *in situ* ; also highly magnified.
 6. Two separated spores, still further enlarged. Spores $\cdot0015$, $\cdot002$ inch long.
 7. *Puccinia corticioides*, B. & Br., the plant ; of natural size.
 8. Spores of the same, greatly magnified. The heads of spores $\cdot0008$ to $\cdot001$ inch long, globose when young ; stalks $\cdot007$ to $\cdot008$ inch long.
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JN Fitch, lith. 16. UROMYCES DEFORMANS, 7, 8 PUCCINIA CORTICIOIDES. Fitch, imp.