Fungi Exotici: IX

Author(s): G. Massee

Source: *Bulletin of Miscellaneous Information (Royal Botanic Gardens, Kew)*, Vol. 1909, No. 5 (1909), pp. 204-209

Published by: Springer on behalf of Royal Botanic Gardens, Kew

Stable URL: <http://www.jstor.org/stable/4113287>

Accessed: 27-06-2016 05:06 UTC

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at
<http://about.jstor.org/terms>

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.

Royal Botanic Gardens, Kew, Springer are collaborating with JSTOR to digitize, preserve and extend access to *Bulletin of Miscellaneous Information (Royal Botanic Gardens, Kew)*

"The colour of the sap-wood is white and that of the heart-wood a dull brown. The latter is rich in resin, and when burned gives off a fragrant odour resembling frankincense.

"The sap-wood, which in mature trees is a negligible quantity, is subject to attacks both by white ants and boring beetles, but the heart wood is impervious to all such insects. Owing to its great strength and durability this timber is invaluable for bridge and house piles and is generally employed locally for both these purposes. Although hard and heavy it can be readily sawn into planks which are admirably adapted for verandah floors, steps, and similar constructions which are constantly exposed to climatic influences."

XXIV.—FUNGI EXOTICI: IX.

G. MASSEE.

Until quite recently, in dealing with the general distribution of fungi, it was considered that the fleshy, perishable forms included in such genera as *Boletus*, *Agaricus*, *Hydnum*, &c., were characteristic of, and mostly confined to, the north temperate zone, whereas dry, cartilaginous, or corky forms, represented by species of *Polystictus*, *Hexagona*, *Stereum*, &c., were equally characteristic of tropical regions. We now know that this generalisation is incorrect, and was simply founded on the fact that the dry coriaceous species of fungi, requiring no attention in the way of drying, were collected by most botanists in the tropics; whereas the fleshy species, difficult to preserve under the most favourable of conditions, were systematically ignored.

The species of *Boletus*, being exceptionally fleshy and prone to decay, are practically unknown from tropical countries. The first African species, *B. curtipes*, Massee, was described in this Journal only last year. The present batch of species were all collected in the Botanic Gardens, Singapore, very beautifully coloured figures of each being made by Mr. C. G. de Alwis, and the specimens were preserved in spirit.

Twenty-two figures of species of *Boletus* were made from specimens collected in the gardens, and all these, judging from the figures, are well-marked, undescribed species. The condition of the spirit material in a few cases, however, did not enable a full diagnosis to be drawn up, but the fact of twenty species of *Boletus* occurring in such a limited area as that indicated proves that the most fleshy of fungi are well represented in tropical regions.

POLYPORACEÆ.

Boletus rufo-aureus, *Massee*.

Pileus globoso-pulvinatus, quandoque subumbonatus, carnosus, glaber, rufo-aureus, centrum versus fuscescens, margine involutus, levis, undulatus vel lobatus, 5 cm. latus. *Tubuli* stipiti adnati, brevissimi, flavescens; pori minutissimi, rotundati, aureo-rufescentes. *Stipes* sursum incrassatus, solidus, pileo concolor, subsquamulosus vel maculis saturatioribus variegatus, basi pallidus, 7 cm.

longus, 2 cm. crassus. *Sporae* cylindrico-fusiformae, flavo-rubiginosae, $10 \times 4.5 \mu$. *Caro* compacta, albida, 1.5 cm. crassa.

SINGAPORE. On the ground, *Ridley*, 61, ser. 2.

A brilliantly coloured fungus, remarkable for the very short tubes (1–2 mm.) and the very minute, rounded pores. The pileus in some specimens has a suggestion of an umbo. Not closely allied to any published species, but showing affinity in some respects with *Boletus spadiceus*, Schaeffer.

Boletus altissimus, *Massee*.

Pileus conico-convexus, dein pulvinatus, glaber, aetate alveolatus, rufo-brunneus margine albido, 7–8 cm. latus. *Tubuli* subliberi, elongati, flavo-virentes; pori magni, polygoni vel flexuoso-oblongi, griseo-virides. *Stipes* solidus, aequalis, basi incurvatus, glaber, albobrunneus, 24–28 cm. longus, 1 cm. crassus; annulus cortiniformis, superus. *Sporae* fusiformae, fuliginosae, $7-8 \times 4 \mu$. *Caro* compacta, albida, 1 cm. crassa, versus marginem tenuissima.

SINGAPORE. On the ground, *Ridley*, 9, ser. 2.

A peculiar fungus, remarkable for the very long, equal, slender stem, bearing near the apex a cortinate ring or annulus. Not closely allied to any known species, but may be placed in the vicinity of *Boletus bovinus*, Fries.

Boletus bicolor, *Massee*.

Pileus pulvinatus, dein plus minusve depresso-undulatus, glaber, siccus, aurantiacus centro obscuriore, 5–6 cm. latus. *Tubuli* stipiti adnati vel subdecurrentes, albidi, 3–4 mm. longi; pori elongato-hexagoni, ampli, albidi. *Stipes* faretus, solidus, sursum incrassatus, glaber, pileo concolor, 4–5 cm. longus, sursum 1 cm. crassus. *Sporae* fusiformae, albidae, flavo-tinctae, $7-8 \times 4 \mu$. *Caro* spongiosa, albida, 1–1.5 cm. crassa.

SINGAPORE. On the ground, *Ridley*, 56, ser. 2.

Readily distinguished by the orange-coloured pileus and stem and the white pores. Allied to *Boletus versipellis*, Fries.

Boletus umbilicatus, *Massee*.

Pileus convexus, profunde umbilicatus, siccus, glaber, flavido-roseus, costis pallidis anastomosantibus eximie reticulatus, margine albidus, 4–6 cm. latus. *Tubuli* elongati, stipiti adnati vel subdecurrentes, flavo-virentes; pori maximi, angulati, virescentes. *Stipes* solidus, sursum leviter incrassatus, longitudinaliter striatus, pileo concolor, 6–7 cm. longus, 1 cm. crassus, subinde subflexuosus. *Sporae* fusiformae, viridi-flavescentes, $8-9 \times 5 \mu$. *Caro* compacta, albida, 1.5 cm. crassa.

SINGAPORE. On the ground, *Ridley*, 78, ser. 2.

A very distinct and interesting species, remarkable alike for the deeply umbilicate pileus, a character unique in the genus, so far as at present known; the pileus ornamented with raised ribs, anastomosing to form an irregular network; and in the tufted habit of growth. Approaching *Boletus caespitosus*, *Massee*, in habit; differing in the longer tubes and very large, angular pores.

Boletus Alwisii, *Massee*.

Pileus carnosus, compactus, pulvinatus, glaber, flavidus centro saturatiore, margine albido infractus, 3–4 cm. latus. *Tubuli* breves,

stipiti adnati, flavescens; pori parvi, subrotundi, flavidi, tactu virescentes. *Stipes* solidus, deorsum attenuatus, pileo concolor vel pallidior, supra annulum reticulatus, infra concentrice squamulosus, 5–6 cm. longus, 0.5 cm. crassus. *Sporae* oblongo-fusoidae, subhyalinae, 6–7 × 4 μ . *Caro* albida, 0.5 cm. crassa, versus marginem tenuissima.

SINGAPORE. On the ground, *Ridley*, 42 & 95, ser. 2.

A very beautiful little *Boletus*, of a clear yellow colour throughout, belonging to the section including *Boletus luteus*, L., and *B. flavus*, With. The illustration indicates that *B. Alvisii* is gregarious in habit.

Boletus tristiculus, *Massee*.

Pileus convexo-explanatus, undulatus, siccus, pulverulentus, margine lobatus, griseo-lividus, 8–9 cm. latus. *Tubuli* concolores, elongati, circa stipitem profunde depressi; pori angulati, ampli, griseo-rufescentes. *Stipes* solidus, elongatus, sursum attenuatus, supra annulum obsoletum pallidus, reticulatusque, infra subsquamulosus squamulis compressis, 8–9 cm. longus, 2–3 cm. crassus. *Sporae* fusiformae, pallidae, 8–9 × 4.5 μ . *Caro* compacta, albida, fracta subcinerascens, 1.5 cm. crassa.

SINGAPORE. On the ground, *Ridley*, 80, ser. 2.

A somewhat dingy-looking fungus, the prevailing colour being a livid grey. Allied in structure to *Boletus chrysenteron*, Fries.

Boletus albellus, *Massee*.

Pileus pulvinatus, carnosus, expanso-depressus vel undulatus, siccus, glaber, albus, 8–10 cm. latus. *Tubuli* albido-flavi, liberi; pori concolores, angulati vel sinuato-oblongi, ampli. *Stipes* farctus, subaequalis vel leviter basi incrassatus, concolor, undique reticulatus, maculis flavescens variegatus, 8–9 cm. longus, 2–3 cm. crassus. *Sporae* fusiformae, pallide flavo-virides, uniguttulatae, 10–12 × 6–7 μ . *Caro* albida, fracta sublutea, 1.5 cm. crassa.

SINGAPORE. On the ground, *Ridley*, 11, ser. 2.

A very distinct species, characterised by the pileus becoming more or less depressed and undulated with age, the white colour of every part, a tinge of yellow only appearing in the tubes and on the stem, and more especially by the sub-equal stem being everywhere covered with raised ribs, anastomosing to form an irregular network. Allied to the group of species of which *B. chrysenteron*, Fries, may be accepted as typical.

Boletus pachycephalus, *Massee*.

Pileus pulvinatus, velutinus, brunneus centro saturatiore, 5 cm. diam. *Tubuli* brevissimi, stipiti adnati vel decurrentes, ex albo sublutescentes; pori angulati aut sinuoso-elongati, mediocres, roseo-rufescentes. *Stipes* solidus, curtus, basi incrassatus, nigro-brunneus, glaber, 2–3 cm. longus, 1.5 cm. crassus. *Sporae* ellipsoideae, flavo-virides, 8–9 × 4 μ . *Caro* alba, immutabilis, crassissima, compacta.

SINGAPORE. On the ground, *Ridley*, 24, ser. 2.

Remarkable for the very dark colour of the stem and pileus, very short tubes, and exceedingly thick, compact, unchangeable flesh. Allied to *B. chrysenteron*, Fr.

Boletus funerarius, Massee.

Pileus carnosus, e subhemispherico expansus depressusve, subumbonatus, siccus, velutinus, atro-brunneus, interdum centro squamulosus, 8–10 cm. latus. *Tubuli* stipiti adnati, elongati, fusciscentes; pori magni, elongato-hexagoni, brunnei. *Stipes* fartus, aequalis, longitudinaliter fibroso-striatus, brunneus, 5–6 cm. longus, 1–5 cm. crassus. *Sporae* fusiformae, leniter curvatae, olivaceo-griseae, $9-10 \times 4-4.5 \mu$. *Caro* compacta, alba, 2 cm. crassa.

SINGAPORE. On the ground, *Ridley*, 50, ser. 2.

A sombre, uninviting species, characterised by brownish-black velvety pileus and brown tubes and pores. The general structure approaches that of *Boletus chrysenteron*, Fries.

Boletus Ridleyi, Massee.

Pileus pulvinatus, velutinus, hinc inde lacunosus vel quasi alveolatus, laete incarnatus, siccus, 8–9 cm. latus. *Tubuli* elongati, adnati, flavo-virentes: pori angulati vel elongato-hexagoni, tubuli concolores. *Stipes* fartus, peraltus, sursum attenuatus, alveolatus alveolis elongatis, pileo concolor, sursum flavicans, 12–15 cm. longus, ad basin 3 cm. crassus. *Sporae* fusoidae, olivaceo-tingentes, $12-13 \times 5 \mu$. *Caro* albida, spongiosa vel cavernosa, fracta sub-rubescens.

SINGAPORE. On the ground, *Ridley*, 87, ser. 2.

A very beautiful and distinct species, characterised by the clear flesh-coloured, velvety pileus, and the very long, alveolate, red stem. Allied to *B. subtomentosus*, L., and *B. implitus*, Fries.

Boletus unicolor, Massee.

Pileus pulvinatus, levis, glaber, ochraceus centro fuscidulo, margine primo involuto dein fisso, 9–10 cm. latus. *Tubuli* ochraceo-virentes, adnati vel subdecurrentes; pori angulati ampli, ochraceo-rufescentes. *Stipes* solidus, elatus, deorsum attenuatus, fibroso-striatus, pileo concolor, 10–12 cm. longus, sursum 2.5 cm. crassus. *Sporae* pallide ochraceae, oblongo-ellipticae, $11-12 \times 5 \mu$. *Caro* persistenter alba, crassa, compacta.

SINGAPORE. On the ground, *Ridley*, 99, ser. 2.

Readily distinguished by the ochraceous colour of every part, the elongated, fibrillose striated stem, tapering downwards. Belongs to the section of the genus including *Boletus bovinus*, Fries.

Boletus longipes, Massee.

Pileus convexo-planus, in exoletis centro plus minusve depressus, viscosus, glaber, griseus centro saturiori, 3–4 cm. latus. *Tubuli* elongati, flavo-virentes, liberi; pori angulati, ampli, griseo-flavidi, marginibus flavi. *Stipes* solidus, elongatus, subaequalis vel basi subincrassatus, flexuosus, glaber, pileo concolor, basi albus, 7–8 cm. longus, 2–3 mm. crassus. *Sporae* flavo-brunneae, ellipsoideae, leniter curvatae, $12 \times 5 \mu$. *Caro* alba.

SINGAPORE. On the ground, *Ridley*, 81, ser. 2.

Remarkable for the long, slender, flexuous stem. The pileus is plane, becoming depressed at the centre when old. This species is probably gregarious, as nine excellently preserved specimens accompanied the coloured drawing. Approaching *B. fuliginus*, Fries, in general structure.

Boletus parvulus, Massee.

Pileus hemisphaerico-explanatus, obtusissime umbonatus, margine integro undulato, minute squamulosus, pulchre flavo-fulvescens centro obscuriore, 5-6 cm. latus. *Tubuli* in stipite subdecurrentes, curti, cinerascens; pori minutissimi, rotundati, roseo-tincti. *Stipes* solidus, sursum incrassatus, glaber, pileo concolor, 4-5 cm. longus, supra 1-5 cm. crassus. *Sporae* cymbiformae, vix carneo-tinctae, $7-8 \times 5 \mu$. *Caro* spongiosa, 1.5 cm. crassa, albida.

SINGAPORE. On the ground, *Ridley*, 56 bis, ser. 2.

A very neat, clear-coloured fungus, characterised by the tawny-yellow pileus and stem, and the rose-tinted pores.

Allied in general structure to *Boletus rufo-aureus*, Massee; differing in the smaller size, minutely squamulose pileus and rosy pores.

Boletus nanus, Massee.

Pileus pulvinatus, carnosus, interdum undulatus, siccus, primitus levis dein centro rimoso-areolatus, olivaceo-fuscus, 1-1.5 cm. latus. *Tubuli* subliberi, curti, flavescentes; pori angulosi, pro ratione magni, flavo-virentes. *Stipes* solidus, plus vel minus flexuosus, æqualis, luteus apice roseus furfuraceusque, 4 cm. longus, 3-4 mm. crassus. *Sporae* fusoidae, flavido-albae, $6 \times 3.5 \mu$. *Caro* compacta, albida, versus marginem tenuissima.

SINGAPORE. On the ground, gregarious, *Ridley*, 39, ser. 2.

A very beautiful and well-marked species, reproducing in miniature all the characteristic features of *Boletus chrysenteron*, Fries.

Boletus flexipes, Massee.

Pileus tenuis, e convexo planus, interdum centro depressus, glaber, castaneus, zona lata umbrina in medio pilei ornatus, 4-5 cm. latus. *Tubuli* in stipite subdecurrentes, curti, flavescentes; pori rotundati, minutissimi, aurei. *Stipes* solidus, flexuosus, sursum attenuatus, pallidus vel tinctura leviter rubescente-flavida praeditus, 6 cm. longus, 6-8 mm. latus. *Sporae* oblongo-fusoidae, interdum curvulae, $7-9 \times 5 \mu$. *Caro* 3-4 mm. crassa, compacta.

SINGAPORE. On the ground, *Ridley*, 97, ser. 2.

A very beautiful species, readily recognised by the plane, chestnut-coloured pileus, golden pores, and pallid, flexuous stem. Its affinity is with *Boletus vaccinus*, Fries.

Boletus flavipes, Massee.

Pileus primo hemisphaericus, dein modice explanatus, margine non vel vix curvulus, dein gradatim expansus, laevis, glaber, sordide castaneus, 3-4 cm. latus. *Tubuli* stipiti adnati, curti; pori rotundati, minuti, albi. *Stipes* teres, subflexuosus, farctus, aetate cavus, flavus, 4 cm. longus, 5-6 mm. crassus. *Sporae* fusiformae, subhyalinae, $6-7 \times 3.5 \mu$. *Caro* compacta, 1 cm. crassa, albida.

SINGAPORE. On the ground, *Ridley*, 25, ser. 2.

A very neat little species, characterised by the white tubes and pores and the slightly flexuous, yellow stem. Allied to *Boletus tenuipes*, Cooke.

Strobilomyces paradoxus, *Massee*.

Pileus carnosulus, margine abrupte tenuis, incurvus, primo hemisphaericus, dein explanatus, umbrinus, dense irregulariterque verrucosus, aetate glabrescens, 6-7 cm. latus. *Tubuli* curtissimi, stipiti adnati; pori polygoni seu alveolati, brunnei. *Stipes* farctus, subaequalis, glaber, pileo concolor, 4-5 cm. longus, 5-6 mm. crassus. *Sporae* oblongo-ovatae, basi oblique apiculatae, longitudinaliter striatae, flavo-brunneae, 9-11 $\times$ 5 μ .

SINGAPORE. On the ground, gregarious, *Ridley*, 28, ser. 2.

A very remarkable species, possessing features characteristic of the genera *Boletus* and *Strobilomyces* respectively. It approaches the last-named genus in the characteristic dusky brown colour; warted pileus becoming glabrous when old; oblong form of spores, with an ornamented epispore. On the other hand, all previously known species of *Strobilomyces* have a very fleshy pileus, shaggy stem, and long tubes. The points in common with *Boletus* are smooth stem, short tubes, as in *B. flexipes*, Mass., and thin flesh, as in *B. bovinus*, L.

XXV.—MYROBALANS.

(*Terminalia Chebula*, Retz.)

The following article on this important tanning material of commerce, to which some additional information is added, appeared in the *Indian Forester*, 1907, p. 362:—

"On the Western Ghats this species does not usually exceed a height of 25 feet or a girth of 3½ feet. The bole as a rule is very short, branching often beginning lower than 2 feet from the ground. The crown is very spreading and the root system shallow. The species is essentially light-demanding. It flourishes on laterite at an altitude of 4,500 feet; here its chief associate is *Eugenia Jambolana*. The new foliage appears about the beginning of April, soon after which the flowers, all bisexual, are displayed in spikes; on an average there are about 40 flowers in each inflorescence, but the number of ovaries ultimately developing into fruit on a single peduncle does not usually exceed 10. The leaves are mostly sub-opposite, glabrous, shining and coriaceous, measuring 3-6 in. by 2-2 in.

"The fruit (the Myrabolam of Commerce), which is a drupe ovoid in shape and an inch long by half an inch broad in the middle, is also glabrous and appears about the end of May. It is at this time light green with tiny yellow spots; the upper part, perhaps on account of the influence of stronger light, frequently changes to a dark purple maroon.

"During the monsoon the fruit turns a greenish yellow. At this period the 'hirda' (this is the name by which the fruit is known to the Maharatta) is sold by auction whilst on the tree, and materially adds to the revenues of those Forest Divisions situated in the *T. Chebula* zone.

"The successful bidder begins collecting in October, and for his convenience depôts are erected at suitable centres, serving also the