

SOME NEW SPECIES OF FUNGI IMPERFECTI

By Jessie S. Bayliss Elliott D.Sc. Birm. B.Sc. Lond.

During the last two years (1916-1917) I have found the following six species of Fungi Imperfecti; four of them are new, and two are new records for the British Isles. With the exception of one, which appeared in a culture in the Botanical Laboratory of the Birmingham University, all were growing on decaying wood or fallen pine cones, lying under pine trees in my garden (Tanworth-in-Arden, Warwickshire).

AEGERITA VIRIDIS Bayliss Elliott. *Sp. nov.*

Crowded, granuliform, minute, globose, 0.5 mm. diameter, deep green when fresh; conidophores profusely dichotomously branched so that they sometimes appear fasciculate instead of simple at the base; conidia formed in branching chains, globose, 4 μ diameter, or frequently subglobose when part of a chain, olive and smooth, (Figs. 1, 2, 3, 4).

On rotten wood, Tanworth-in-Arden, Warwickshire.

This fungus is very abundant on rotten wood lying in damp places in the district of Tanworth-in-Arden throughout the year. It is distinguished from *A. virens* Carm. by the crowded habit and the very much smaller conidia.

Latin diagnosis. Conferta, granuliformis, minuta, globosa, 0.5 mm. diametro, recens saturate viridis; hyphis fertilibus profuse dichotomis ut interdum basi quasi fasciculatis; conidiis in catenas ramosas digestis, globosis vel subglobosis, olivaceis, levibus, 4 μ diam. Hab. in ligno putrido (Figs. 1-4).

CLONOSTACHYS DICHOTOMA Bayliss Elliott. *Sp. n.*

Forming effused tawny patches; sterile hyphæ septate, broad, 10 μ diameter, pale ochraceous; fertile hyphæ lax, very much branched, repeatedly dichotomous or sometimes trifurcate, colour tawny; branches ascending, 2.5 μ diameter, with few septa, tapering to an elongated thread 20-30 μ long which forms the axis of a compact spike of closely crowded conidia; conidia globose, 2 μ colourless, (Figs. 5. 6. 7).

On decaying wood. Tanworth-in-Arden.

It is difficult to decide in which genus this fungus should be placed—*Clonostachys* or *Sporotrichum*; but I have assigned it to *Clonostachys* because of the conidia occurring in closely crowded spikes such as are seen in *C. araucaria Cda.*; nevertheless in the method of branching of the fertile hyphæ the genus *Sporotrichum* is more in agreement.

Latin diagnosis. Plagas effusas fulvas efformans; hyphis sterilibus septatis, 10μ diam., pallide ochraceis, fertilibus laxis, ramosissimis, repetite dichotomis, subinde trichotomis, fulvis, ramulis adscendentibus, 2.5μ diam., septis paucis instructis in filum, $20-30\mu$ longum attenuatum conidiis dense constipatis spicæ ad instar abeuntibus; conidiis globosis, achrois, 2μ diam.

Hab. in ligno putrescente. (Figs. 5-7)

DENDRODOCHIUM ALBUM Bayliss Elliott. Sp. n.

Sporodochia minute, erumpent, scattered, circular, slightly depressed in centre, $100-200\mu$ diameter; conidiophores simple with trifurcate apex, $22-25 \times 1.5\mu$ septate; conidia smooth, spherical, white 2.5μ diameter, (Figs. 8, 9, 10, 11).

On fallen pine cones, December 1916; Nov. 1917.

Tanworth-in-Arden, Warwickshire. (Figs. 8-11).

The conidia are evidently abstricted from the trifurcate conidiophores in a basipetal manner, and become immediately detached since no chains of conidia are to be seen; they are produced in enormous quantities and in a damp atmosphere a slowly growing column-like mass is formed on the top of the sporodochium which ultimately topples over, and the conidia on coming in contact with water are very rapidly dispersed.

Latin diagnosis. Sporodochiis minutis, sparsis, erumpentibus, orbicularibus, centro depressulis, $100-200\mu$ diam.; conidiophoris simplicibus, apice trifurcatis, septatis, $22-25 \times 1.5\mu$ conidiis levibus, sphaericis, albis, 2.5μ diam.

Hab. in conis *Pini silvestris* delapsis.

TRICHOCREA March in Camp, copr. VI. p. 14. Sacc. Syll. X, p. 410.

Pycnidia superficial, ovoid, at first closed, then wide open, almost discoid; texture parenchymatous, rather soft and waxy, pale coloured. Spores very numerous, narrow cylindrical, 1-septate, hyaline; sporophores elongated, filiform, densely fasciculate, branched above.

TRICHOCREA OÖDES Bayliss Elliott. *Sp. n.*

Pycnidium superficial, gregarious, lemon or egg-shaped, $130-190\mu \times 180-200\mu$, stalk, $50-100\mu$ long, shining, whitish; excipulum consisting of very narrow interwoven septate hyphæ; at first closed, then open, margin fringed with converging hairs. Pycnospores elongate, linear, some slightly bent and thicker in the middle, $30-60 \times 0.5\mu$ aseptate and pluriguttulate, colourless, situated on branched sporophores, which rise in dense clusters from the base of the pycnidium: the pycnidia turn black with age, (Figs. 12, 13, 14, 15, 16).

On a fallen cone of *Pinus sylvestris*. Tanworth-in-Arden, Warwickshire.

I have included this in the genus *Trichocrea* although it does not quite agree, seeing that the excipulum is not parenchymatous but of interwoven hyphæ; also the spores are continuous, not septate, but they may become so since they are pluriguttulate: but as the genus *Trichocrea* hitherto only contains one species, *Tr. stenospora* March. recorded for Belgium, which has some points of resemblance with this species, it seems better to do this than burden the classification with another genus.

The spores germinate readily in 24 hours and by means of connecting hyphæ often anastomose with one another.

A group of pycnidia looks very like a cluster of insect's eggs, so much so that although I had frequently seen groups of them I had not troubled to examine them, thinking they were insect's eggs.

The hyphæ forming the excipulum, the long branched conidiophores, the attenuated pycnospores are all so nearly of the same narrow width that a crushed pycnidium appears little more than a mass of pycnospores unless very carefully examined.

Latin diagnosis. Pycnidiis gregariis, superficialibus, ovatis vel limoniiformibus, $150-190 \times 180-200\mu$, pedicello $50-100\mu$ longo præditis, nitidis, albidis, senio nigrescentibus, initio clausis, dein apertis, excipulo hyphis angustissimis septatis intertextis constante, margine pilis convergentibus ciliato. Sporulis elongatis, linearibus, raro flexis medioque crassioribus, $30-60 \times 0.5\mu$, eseptatis, pluriguttulatis, achrois, sporophoris e basi pycnidii oriundis dense fasciculatis suffultis.

Hab. in cono delapso *Pini sylvestris*, (Figs 12-16).

Haplographium fuscoipes (Preuss) Sacc. Syll. iv. 307.

Forming delicate inconspicuous cinder-grey patches; mycelium creeping, dark brown, fertile hyphæ erect, $110 \times 3\mu$, simple, occasionally branched, septate, dark brown below, becoming paler and colourless above, where each divides into two or sometimes three main colourless branches which again branch freely and bear numerous short branches, to which are attached conidia in short chains, which may also branch; these branches and conidial chains form a rather lax globose or sub-globose head; conidia hyaline, globose, 1.5μ diameter, (Figs. 17, 18).

On fallen cones of *Pinus sylvestris*, Tanworth-in-Arden, Warwickshire.

This agrees with Saccardo's description of *H. fuscoipes*, found on the fallen leaves of *P. sylvestris* (Germany).

Sterigmatocystis phæocephala Sacc. (Fungi Ital. t. 908).

Creeping hyphæ large, colourless; fertile hyphæ erect, unbranched, with pale brownish contents, transparent and tinged brown when empty, aseptate; apex inflated, 46μ diameter, conidiophores $15-17\mu$ long with 3 or 4 sterigmata $10-14\mu$ long; conidia in chains, globose, minutely warted, brown, $2.5-3.5\mu$ diameter, (Figs. 19, 20, 21).

On agar culture medium infected for bacteria in a Petri dish in the Botanical Laboratory, University of Birmingham.

This fungus agrees except in a few minor details with the description of *S. phæocephala* Sacc. previously recorded for Algeria, Italy, Germany, Argentine, and Madras as occurring on decaying roots, etc.

In the original description the fertile hyphæ are described as "Sub apice globoso inflato strangulatis," but only a very slight trace of strangulation is to be seen in the figure appended and with this my specimen almost agrees.

Also although the conidia are said to be subglobose they are figured as I find them—globose.

The fertile hyphæ with their heads of conidia are quite white in mass for several days before they assume the brown colour, hence zoning is a very conspicuous feature in cultures.

The shade of brown varied very much with the amount of light to which the fungus was exposed. Cultures grown in bright light were a chocolate brown and afforded a marked contrast to the fuscous brown colouration of those grown in darkness or dim light. Cultures under varying conditions

of temperature, or of acidity or alkalinity of medium produced no corresponding change of colour.

The fungus bears some resemblance to *Aspergillus nigriscans* described by Cooke, 1885, as occurring "in the meatus auditorius of the human ear," but the conidia are smaller and the colour does not approach black; moreover it is a *Sterigmatocystis* not an *Aspergillus*.

In conclusion, I wish to express my indebtedness to Mr. W. B. Grove, M.A., for helpful criticism and for the Latin diagnoses, and to Professor West for the loan of books of reference, and also to Miss Lorrain Smith for her kindness in consulting books of reference inaccessible to me.

Fig. DESCRIPTION OF PLATE.

1. *Ægerita viridis*. Groups of sporodochia showing the crowded habit, $\times 10$
2. Conidiophore and dense mass of conidia, $\times 80$.
3. Conidia forming branching chains, $\times 600$.
4. Conidia, from a young sporodochium $\times 600$.
5. *Clonostachys dichotoma*. Small portion of a much branched conidiophore, $\times 80$.
6. Branch of a conidiophore with conidia arranged in the form of a spike, $\times 600$.
7. Sterile hyphæ, $\times 600$.
8. *Dendrodochium album*. Group of pycnidia, each pycnidium surmounted by a mass of pycnospores, $\times 50$.
9. Pycnidium seen to be erumpent $\times 600$.
10. Pycnospores, $\times 600$.
11. Trifurcate conidiophores, $\times 600$.
12. *Trichocrea oödes*. A group of pycnidia, $\times 40$.
 - a. Young pycnidia.
 - b. Mature pycnidium with mass of pycnospores just appearing through the ostiole.
 - c. Immature pycnidium whose pycnospores have been pressed out.
13. Branched conidiophores, $\times 600$.
14. A mass of branched conidiophores.
15. Pycnospores which are very long and attenuated.
16. Germinating pycnospores which are connected by anastomosing hyphæ, $\times 600$.
17. *Haplographium fuscipes*. Group of conidiophores $\times 92$.
18. Conidiophores showing branching chains of conidia, $\times 600$.



Fig.

19. *Sterigmatocystis phaeocephala*. Group of fertile hyphæ, $\times 120$.
 20. Inflated apex of fertile hyphæ with conidiophores bearing 3 or 4 sterigmata, $\times 350$.
 21. Conidia, some in chains, and some still attached to sterigmata $\times 600$.
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NEW OR RARE BRITISH FUNGI.

With Plate II.

By Carleton Rea, B.C.L., M.A., etc.

LEPIOTA FULVELLA Rea, v. t. II., fig. 2.

Pileus 3.5 cm. latus, *fulvellus*, carnosulus, margine tenuis, e convexo-campanulato expanso-subumbonatus, *squamulis adpressis, saturatioribus arcte vestitus*. Stipes 3.6 cm. longus, 3.6 mm. crassus, pileo concolor, aequalis, vel deorsum attenuatus, fistulosus, laevis; annulus albidus, inferus, fugax. Caro aquosa, albida, inodora et insapora. Lamellae 4-6 mm. latae, e pallido ochraceae, postice rotundato liberae, confertae. Sporae hyalinae, angulato-oblongatae, basi truncatae, apice acutae, $9-10 \times 3.5-4\mu$. ut plurimum 1-2-guttulatae; basidia clavata, 4-sterigmatica, cystidia subglobosa vel pyriformia, $14-18 \times 8-12\mu$. Ad terram nudam in nemoribus frondosis, Plowden, Salop, 25-ix.-1917.

Distinguished in the Clypeolariae section of Lepiotae by its tawny colour, adpressedly squamulose pileus, smooth stem, and the oblong spores, truncate at the base and acute or acutely angular at the apex.

LEPIOTA ROSEA Rea, v. t. II., fig. 1.

Pileus 2.3.5 cm. latus, *laete roseus*, carnosulus, margine tenuis, e convexo expansus, *granulis globosis dense obsitus*. Stipes 5.6 cm. longus, 3.5 mm. crassus, albidus, dein pileo concolor, aequalis, fistulosus, laevis; annulus pileo concolor, angustus, medius, mox evanidus. Caro albida *dein rubescens*,