Fungi Royale: from Regent's Park to Primrose Hill

Andy Overall*

Following on from my previous articles for FM on the fungi of the Royal Parks (Overall 2010, 2011a, 2011b), I was fortunate enough to be asked to survey Regent's Park and Primrose Hill during the late summer and autumn of 2015. The following article highlights some of the more interesting finds from the survey, preceded by some historical and habitat information on the parks.

Background and Habitat

Regent's Park and Primrose Hill comprise around 191 hectares (472 acres) of Central London, mainly within the City of Westminster, with parts of Regent's Park and all of Primrose Hill within the borough of Camden. Forty hectares (100 acres) is privately owned or leased, including the area occupied by London Zoo.

Of the 191 hectares, 107 are grassland with 5,037 trees (based on the Regent's Park managment plan 2014) none of which are believed to be remnants of the original John Nash plantings (1830's). As well as the parks being utilised for the two world wars and the heavy clay soils being unforgiving for many trees, Dutch Elm disease took its toll and the storms of 1987 and 1990 claimed around 400 trees. Therefore the majority of trees are only fifty years old, some around hundred years old but few are older. The park lies within the valley of the River Thames and slopes from north to south at a low elevation of between 25 and 42 metres, giving an appearance of being flat. Apart from the natural slope of the Thames Valley, all other inclines are a result of wartime bombing or infill of bomb rubble.

Soils across the parks are predominantly influenced by a 267 ft thick layer of London Clay, beneath which there is thick, chalk bedrock, which is itself covered by fine sand known as the Thanet Sand Foundation. This is mixed with sandy clay and pebble beds, known as the Lambeth Group, comprising the Reading and Woolwich Beds. Gravels overlay the clay on the southern edge of the park, a result of the Thames Valley river deposits. Where the clay becomes waterlogged during wetter periods and baked dry in warmer periods, it is difficult for many larger fungi to survive. However, larger areas of the amenity grassland have been renovated with sand-ameliorated soils. Also the formal gardens have had soil amelioration and the construction of a drainage system, all of which are beneficial to larger fungi. Also large areas of the park were filled in with bomb rubble from World War 2, which may have actually helped to form a superficial, free-draining, possibly alkaline, soil in those areas.

A variety of trees inhabit the park: *Quercus robur* (English oak), *Fraxinus excelsior* (ash), *Tilia* spp. (lime) and non-native *Platanus* x *hispanica* (London plane) are the dominants. *Salix* (Willow) and *Alnus* (Alder) line some of the banks of the water features. There is a scattering of *Fagus sylvatica* (beech), *Carpinus betula* (hornbeam), *Quercus ilex* (Holm oak), *Populus* spp. (poplar), *Betula pendula* (birch), *Corylus avellana* (hazel) and *Cratageus monogyna* (hawthorn) throughout the parks as well as other non-native trees including *Acer pseudoplatanus* (sycamore) and *Aesculus hippocastanum* (horse chestnut).

The park is a Site of Metropolitan Importance (SMI), a designation arrived at by employing criteria contained within the London Biodiversity Action Plan and Biodiversity Strategy.

The most productive areas of Regent's Park were found to be the tree-lined avenues and pathways, roadside verges and the banks alongside parts of the Longbridge watercourse. On Primrose Hill one particular spot that had two large Turkey Oaks, *Quercus cerris*, provided a couple of nice records.

The Fungi

Running along the west side of the Outer Circle, parallel with the Regent's Canal, there is a

*Flat 2, 39 Northend Road, Golders Green, London NW11 7RJ

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relatively wide grassy area with oaks, ash, lime and beech. I found this area to be quite productive including some rarely recorded species. On the corner of Macclesfield Bridge there begins a line of hornbeam trees and it was right on the corner that I came across *Russula carpini* (Fig. 1), a new record for Middlesex. I had found a number of other genera fruiting on this corner, *Cortinarius* (sg. *Telamonia*), *Inocybe*, *Pluteus*, *Tricholoma* and *Laccaria*. *Russula carpini* is strictly a hornbeam mycorrhizal associate, as its name suggests.

Details of the illustrated collection

Russula carpini (Fig. 1)

Cap 42–90 mm across, hemispherical to convex, olive-green, mottled with purple and paler blotches, glabrous, shiny (in this collection), margin peeling one third, sulcate in maturity.

Gills adnexed, cream to yellow, fairly crowded, edge entire and concolorous. Remaining pale for a long time. **Spore-print** orange-ochre, the darkest spore print of all British species of *Russula*, darker than might be expected from the gill colour.

Stem 46–84 x 15–21 mm, white, cylindrical, widening slightly toward the base and narrowing toward the apex, spongy, yellowing somewhat upon handling and with age.

Flesh white, mild tasting, unchanging.

Spores ellipsoid, subglobose, spiny, without connectives. 7.8–8.7 x 6.7–7.5 µm (Fig. 2).

Dermatocystidia multi-septate with swollen elements (Fig. 3).

Inside one of the compartments known as the Chicken Pen, fenced off from the public, there are a group of hornbeam, birch and two large cypress

Fig. 1. *Russula carpini* with typical rather mottled cap colours. Photograph © A. Overall.

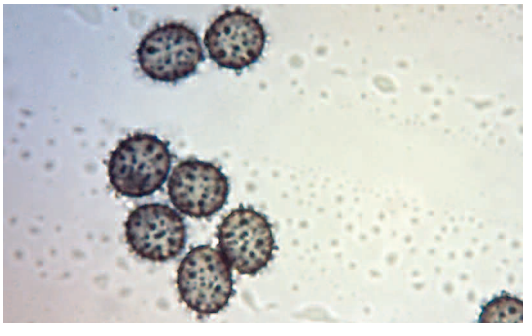

Fig. 2. Spores of *R. carpini*. Photograph © A. Overall.

Fig. 3. Pileocystidia of *R. carpini*. Photograph © A. Overall.