

## A NEW SPECIES OF *PLEUROTUS* (AGARICALES) IN NEW ZEALAND

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*Pleurotus rattenburyi* sp. nov., Fig. 1 a-g.

Basidiomata pleurotoidea, imbricata; stipes adest, fortiter excentricus. Pileus 1-7 cm latus, 3-5 cm longus, tenaciter carnosus, late spathulatus, flabelliformis, late convexus vel planus; superficies uniformiter atroviolacea vel brunneo-ardesiaca, colore in sicco retento, glabra et humida sed non viscida; margine leviter in juvenute involuto, ad maturitatem recto. Lamellae decurrentes, 3-4 mm latae, marginibus laevibus et acutis, griseo-albae, tenues, confertae, 3-4 ordinibus lamellarum intermixtae, aliquando bifurcatae prope stipem. Stipes lateralis, curtus, 5-15 mm longus x 5-10 mm latus, solidus, pruinosis, basi lilacino-grisea. Caro grisea, tenuis. Pulvis sporarum albus. Sporae 6.5-9 (7.6) x 4.5-5 (4.7)  $\mu\text{m}$ , hyalinae, tenuitunicatae, cylindrico-ellipticae vel leviter fabiformes, collabentes. Basidia 37-40 x 6-8  $\mu\text{m}$ , clavata, 4-sporigera. Cheilocystidia conferta, cylindrico-clavata, clavata vel lageniformia 25 x 3-7  $\mu\text{m}$ , tenuitunicata, hyalina, fibulata. Pleurocystidia nulla. Pileipellis hyphis repentibus, incrustatis, fibulatis. Contextus summus hyphis leviter brunneis, leviter gelatinosis, 2-4  $\mu\text{m}$  diam., contextus inferior hyphis tenuitunicatis; subhymenium pseudoparenchymatum; trama hyphis intertextis, aliquando incrustatis. Caulocystidia coralliformia, hyalina, fibulata, aliquando crassitunicata. Inodora et insipida.

In ligno mortuo *Nothofagus solandri* var. *cliffortioides* (Hook. f.) Poole.

Holotypus PDD 44961.

Basidiomes pleurotoide, sometimes imbricate; stipe present, strongly excentric to almost lateral. Pileus 10-70 mm wide by 30-56 mm long, broadly spathulate to flabelliform, broadly convex to flat, rubbery in texture; surface matt, uniformly dark violet to deep brownish violet (15F7-14F5, K & W), retaining colour on drying, smooth and moist but not viscid; margin slightly inrolled when young, distinctly straight at maturity. Lamellae decurrent, 3-4 mm wide, pale silvery grey, thin, crowded, alternating with lamellulae of 3-4 lengths, some bifurcating towards stipe; edges very even. Stipe lateral, short, 5-15 mm x 5-10 mm wide, solid, pruinose, lilac-grey with yellowish tints (amber yellow, K & W 4B6) at the base. Flesh thin, grey. Spore print white. Smell and taste none.

Spores 6.5 - 9 x 4.5-5 (7.6 x 4.7) $\mu$ m, hyaline, thin-walled, inamyloid, cylindrical-elliptic to slightly phaseoliform, collapsing easily. Basidia 37-40 x 6-8  $\mu$ m, elongate-clavate, hyaline, sometimes with granular contents, 4-spored. Gill edge sterile; cheilocystidia crowded, varied in shape, cylindrical-clavate, more strongly clavate to broadly lageniform,

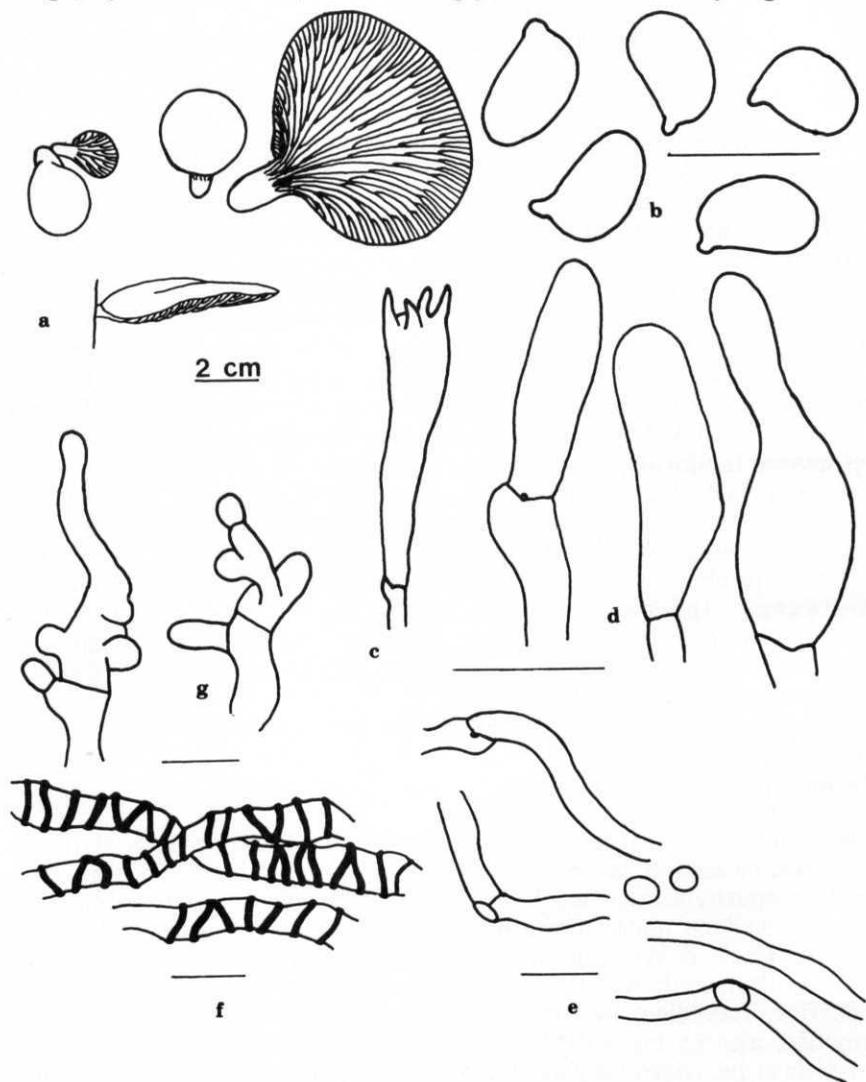


Fig. 1. a. habit; b. spores; c. basidium; d. cheilocystidia; e. gelatinized hyphae of upper context; f. incrusted hyphae of pileipellis; g. caulocystidia. All lines 10 $\mu$ m unless otherwise stated.

25 x 3-7  $\mu\text{m}$ , thin-walled, hyaline, all with conspicuous clamps at base; pleurocystidia absent. Pileipellis a thick parallellocutis of distinctive, incrustated to banded, clamped hyphae 4-7  $\mu\text{m}$  diam., incrustations or bands deep purple-black in 3% KOH, congo red or Melzer's solution. Context just below the pileipellis of sub-parallel, light brown (some incrustated), somewhat gelatinous hyphae 2-4  $\mu\text{m}$  diam; rest of context hyaline, thin-walled interwoven hyphae 4-6 (-7)  $\mu\text{m}$  diam, with occasional oleiferous hyphae with cyanophilic contents. Lamellar trama similar to context but with scattered incrustated cells appearing dark blackish-brown in 3% KOH and Melzer's solution; subhymenium well-developed, pseudoparenchymatous. Stipe surface densely covered with distinctive coralloid clusters of short caulocystidia 11-35 x 7  $\mu\text{m}$ , hyaline, with large clamp connections; some cystidia with thickened walls, others with hair-like extensions.

On wood of dead *Nothofagus solandri* var. *cliffortioides* (Hook. f.) Poole, New Zealand, Tongariro National Park, Whakapapanui Stream, 28 May, 1980, leg. BPS, PDD 44961 (holotype) and Whakapapaitei Stream, 24 May, 1984, leg. BPS 1957.

On *Nothofagus* trunk, New Zealand, Wellington, York Bay, 26 June, 1922, leg. E.H. Atkinson, PDD 655.

On *Nothofagus solandri* var. *cliffortioides*, New Zealand, Tongariro National Park, Soda Springs Track, 13 June, 1971, leg. J.B. Taylor, PDD 29255.

On rotten *Nothofagus menziesii* (Hook. f.) Oerst., New Zealand, Nelson, Lake Daniels Track, 16 May, 1969, leg. R.F.R. McNabb, PDD 31357.

On tree lucerne stump, New Zealand, Levin, 1 August, 1952, leg. A.S. Wilkinson, G. Stevenson 874(K). The larger form quoted by Stevenson (1964) under *P. ostreatus* as having yellow gills is also a *Pleurotus* but not *P. rattenburyi*.

This very distinctive fungus was found in great quantity as the first invader of fallen trees following extensive killing of *Nothofagus*, the cause of which is not yet fully established, but may be associated with the frequent presence of *Armillaria limonea* (Stev.) Boissewinkel and *A. novae-zelandiae* (Stev.) Boissewinkel on *Nothofagus* in the area.

This fungus was first recorded for New Zealand by G. Stevenson (1964) as *Pleurotus ostreatus* (Jacq. ex Fr.) Kummer, collected at Levin on a tree lucerne stump by A.S. Wilkinson, 1 August, 1952 (Stevenson 874, K). The material at Kew has been examined and found to be identical with the material described in this paper. This fungus certainly has the appearance of some of the dark bluish-black variants of *P. ostreatus* but it differs from the published descriptions in a number of respects. *P. ostreatus* usually has a lilac spore print. It does not have the rubbery texture of *P. rattenburyi* when fresh, the spores are elongated to cylindrical, the lamellae are broader and well-spaced and creamy-

white to ivory and the margin of the pileus is strongly inrolled.

#### ACKNOWLEDGEMENTS

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#### REFERENCE

Stevenson, G. 1964: The Agaricales of New Zealand: V. *Kew Bulletin* 19(1): 1-59.