

Notes on Australian Fungi

A. E. WOOD

School of Botany, University of New South Wales,
P. O. Box 1, Kensington, New South Wales, Australia, 2033.

Abstract. — A detailed description is provided of *Anthracophyllum archeri* (BERK.) PEGLER, and notes are provided on *Cyptotrama asprata*, *Amanita xanthocephala*, *Amanita muscaria* and *Cantharellus cibarius* var. *australiensis*

Introduction

There has been no extensive treatment of Australian larger fungi since that of CLELAND (1934, 1935). That work mostly gave no microscopic details other than spore size. There is a need to provide complete modern descriptions of these species, with full microscopic details and using modern generic concepts. The following paper provides details on some common fungi.

Descriptions

1. *Anthracophyllum archeri* (BERK.) PEGLER, Aust. J. Bot. 13: 324 (1965) — Fig. 1, a–c

Bas.: *Xerotus archeri* BERK. in HOOK. f. Fl. Tas. 2: 247, t. 181/7 (1860)

Pileus 10–20 (–30) mm diam., convex then conchate or fan-shaped, mostly laterally attached but occasionally dorsally attached to substrate, margin at first fairly strongly enrolled but fully expanded at maturity; pallid pinkish cream to pale reddish buff, somewhat more pallid with age; smooth, dry, a little radially sulcate, flexible when fresh, becoming more tough when dry. — Lamellae radiating from point of attachment, thin to a little thick, wellformed normal lamellae, widely spaced, sometimes with no lamellulae and on other occasions with one set of lamellulae, no intervention at any stage, bright brick red, a little more reddish brown when old, margin concolorous. — Stipe absent or rudimentary, usually lateral, occasionally dorsal and then often sub-central white to pale cream, slightly and finely tomentose, not strigose around base, veil remnants none. Mostly in groups, not confluent, rarely single.

Spore print white. — Spores (8.5)9.0–10.5(11.5) × (5.0)5.5–6.5(6.7) μm , ovoid to elliptic, some short broad cylindric, hyaline, thin-walled, inamyloid, smooth, with brownish contents, germ pore none. — Basidia 33–45 × 7–10 μm , 4-spores. —

Cheilocystidia sparse, irregular, hyphoid, thin-walled 25–40×2.5–3 μm . – Pleurocystidia absent. – Hymenophoral trama irregular, of interwoven hyphae, 3–4 μm diam., distinctly thick-walled, wall 1 μm thick, hyphae of trama and context encrusted with brown pigment which dissolves in alkali and becomes green. – Cuticle compound of narrow, 2 μm diam., thin-walled hyphae in a distinct layer, arranged in a roughly parallel radial manner; surface hyphae freely and irregularly branched, branches short but no regular *Rameales* – structure formed; clamp connections present.

Habitat: On dead twigs of angiosperms in rainforest and wet and dry sclerophyll forest.

Material: AUSTRALIA: New South Wales: Dorrigo, Mobong Ck Reserve, 10. 2. 83, WOOD (UNSW 83/28); Barrington, Williams R., 24. 2. 83, WOOD (UNSW 83/138); Sydney, Bola Ck., Roy. Natl. Pk., 17. 7. 83, TAEKER (UNSW 83/1046).

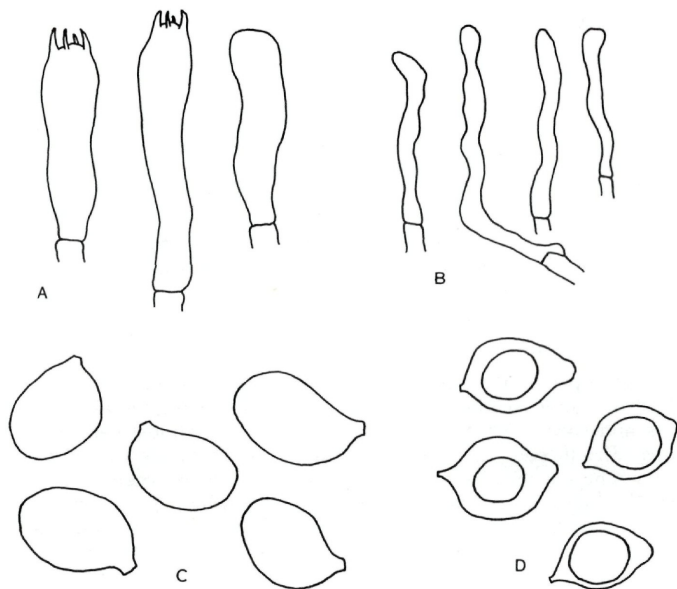


Fig. 1. *Anthracophyllum archeri* (BERK.) PEGLER: A. basidia, $\times 1000$. – B. spores (UNSW 83/138), $\times 2000$. – C. cheilocystidia (UNSW 83/1046), $\times 1000$. – *Cyptotrampa asprata* (BERK.) REDHEAD & GINNS: D. spores (UNSW 82/96), $\times 1000$.

This is a common species on dead twigs in damp areas. Originally described from Tasmania, these recent collections are clearly this species and the spore size matches the type collection very closely (PEGLER, 1965). The species recorded by CLELAND (1934) from New South Wales as *X. fuliginosus* BERK. & CURT. is almost certainly this species as *X. fuliginosus*, which according to SINGER (1975) is a synonym of *A. lateritium* (BERK. & CURT.) SING., is a tropical/sub-tropical species with a different distribution and different colours of the fruit body. This species has also been reported from Victoria (WILLIS, 1950) and it would appear to be the same, even though the lamellae are referred to as 'pale coca brown' and some intervention is recorded. It has also been recorded by COOKE (1892), together with *X. berterii* and *X. lateritius*. Clearly the species recorded as *X. archeri* is the species described here, while the other species are quite different and one or both may be *A. nigratum* (LEV.) KALCHBR. (see PEGLER, 1977; PETCH, 1916).

This species does not seem to occur in East Africa (PEGLER, 1977) or Ceylon (PETCH, 1916) or tropical America (DENNIS, 1970) and the report of *X. drummondii* BERK. from New Zealand (a synonym of *A. archeri* [PEGLER, 1965]) cannot be confirmed in the absence of herbarium material (HORAK, 1971). *A. archeri* is reported to have larger spores than *A. berterii* (MONT.) SING. and *A. discolor* (MONT.) SING. (SINGER, 1977). The spore size of Australian collections is somewhat variable and only a low proportion of spores are particularly large. Further work is needed on *A. berterii*, particularly since the spore sizes given for that species appear to be somewhat variable (SINGER, 1951; 1977). At the moment, *A. archeri* seems a good distinct species. Macroscopically it is quite different from *A. nigratum* (LEV.) KALCHBR. (PEGLER, 1977) and *A. andinum* DENNIS (DENNIS, 1970).

2. *Amanita muscaria* (L.: FR.) HOOKER

This species has been known for long periods in certain areas of Australia under introduced trees, mostly under pines, but also under oak and spruce (CLELAND, 1934, WILLIS, 1950). Almost certainly it was introduced with those trees and has established itself with them. The species was deliberately introduced more recently to New South Wales from Victoria, around Bilpin where pines are used extensively as windbreaks for orchards. It has become established and fruit bodies have been collected among pines along a road through the area for a distance of about 10 Km. So far there is no record of this fungus being found in the adjoining *Eucalyptus* spp. woodlands as has been reported for *Amanita phalloides* in East Africa (PEGLER, 1977).

3. *Amanita xanthocephala* (BERK.) REID & HILTON, Aust. J. Bot.,
Suppl. 8: 65 (1980)

This very common species in eastern Australia has been recently re-described from fresh material (REID, 1980). All descriptions report that no ring is found in this species. Several recent collections have been made of this species which include young specimens in very good condition. These collections all show the presence of a fine delicate white arachnoid partial veil in young specimens. The veil ruptures as the cap expands and is quite fugacious – no remains persist either on the margin of the cap or on the stipe. However, careful examination of young material clearly demonstrates the presence of a partial veil.

4. *Cyptotrama asprata* (BERK.) REDHEAD & GINNS, Can. J. Bot. 58:
731 (1980) – Fig. 1, d

This very distinctive species is widespread in rainforests in eastern Australia (ABERDEEN, 1962). Because it is so distinctive, it is frequently seen, though never in large numbers. While it normally occurs in rainforests, several collections have been made from *Eucalyptus* woodland. The spore size seems rather variable (READHEAD & GINNS, 1980). Australian collections have a spore size of $8.4-9.6 \times 5.2-5.8 \mu\text{m}$, the spores being rather distinctly tapered towards the apex. This size falls well within the range reported by PEGLER (1977) and the range of most collections examined by REDHEAD & GINNS (1980) but closer to the size of spores from collections from warmer climates.

5. *Cantharellus cibarius* var. *australiensis* CLEL., Toadst.
Mush. S. Aust. 1: 172 (1934)

CLELAND described this variety from New South Wales and Victoria (but not, apparently, South Australia) and also figured a coloured painting of the variety (apricot coloured) together with a painting of a rare crimson form. CORNER (1966), regarding both these illustrations as part of the same variety, transferred this variety to *C. cinnabarinus* apparently because of the red colour of the rare variety. In recent years there have been several collections of this variety, though it is usually not very common. All the collections were of the normal apricot form and there seem to be no recent reports of the crimson form. This agrees completely with CLELAND'S notes. This is the only form mentioned by WILLIS (1950) from Victoria. Therefore it appears that any name transfer should be concerned with the apricot form and only secondarily concerned with the crimson form. The apricot form would clearly be regarded as a variety of *C. cibarius* and it is proposed that this is a better solution

to this problem, particularly as it is the only common form. The crimson form raises the problem of whether it is part of the same variety or really quite a separate variety. As CLELAND used varieties sparingly and as it was a rare form, it would appear better, in the light of the later work of CORNER, to regard the crimson form as a separate variety and dispose of it as he has suggested, as a variety of *C. cinnabarinus* for which a new name would be needed. It would seem preferable to wait for further fresh collections before proposing a new name.

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