



*Amanita crassiconus* (2013103). Zambia, Lusaka Province, Lusaka West, Kyundu Ranch, Feb 2013, TN.

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Over 250 species of Basidiomycota are presented from Tanzania, Zambia and Mozambique, and to a lesser extent from neighbouring and other East African countries. Each species is provided with photographs taken mainly by the authors in the field, a description, plus notes on edibility, pathology, distribution, traditional uses and other details of interest. Special emphasis is put on spore dimensions: in all over 14 500 spores were measured, and the results show typical (90 %) size ranges, extreme sizes measured, mean values, and length /width ratios. The book includes photographs of the type specimens of 33 species. The species are arranged according to the form-groups Gilled mushrooms, Boletes, Polypores, Other aphyllorphoid fungi, Jelly fungi, and Gastroid fungi.

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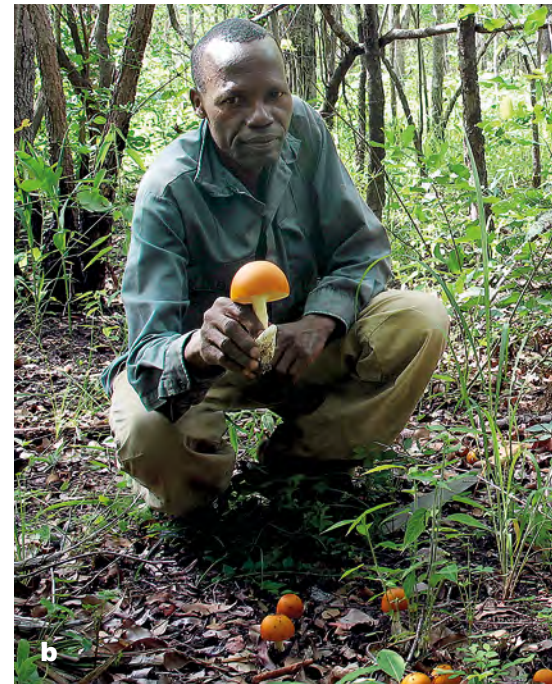
*Amanita tanzanica* (1388 **holotype**). TAN Ru-vuma R, Tunduru D, 18 km W of Tunduru, Jan 1993, TN.

### *Amanita tanzanica*

**Cap** 5–11 cm diam., at first convex, becoming flat. Surface bright orange to dark orange-red, more ochraceous with age, silky, smooth, sticky in moist weather, seldom with one or a few large, white veil remnants on the surface, margin striate. Gills free, white, smooth, crowded, with lamellulae. Stipe 8–13×0.5–2 cm, equal, but its extreme base attenuate, surface white, above the ring finely striate, below it somewhat floccose. Ring superior, hanging, white. Volva large, saccate, thick, attached to the extreme base of the stipe. Context in cap fairly firm, white but somewhat yellowish just under the pellicle, in stipe white, brittle fibrous, later hollow. Smell weak, sometimes slightly earth-like; taste mild and pleasant.

**Notes** This brightly coloured *Amanita* is common in *Brachystegia* woodlands at least in the eastern parts of the miombo region, and it is one of the favourite edible mushrooms there. When sorted for sale, the soil-covered sac-like volva is usually discarded. Because of its striking reddish colour, this species has sometimes been confused with the poisonous *Amanita muscaria* (see that species), which is not indigenous to Africa and is associated with exotic trees, most often with pine. *Amanita tanzanica* is found only within the natural miombo vegetation.

**Spores** (8.4–)8.9–11.2(–12.2)×(5.7–)5.8–7(–7.5) μm, mean 9.92×6.40 μm, Q=1.55, narrowly ellipsoid, inamyloid.



**a–b** *Amanita tanzanica* (201125). MOZ Nampula P, Mecubúri D, Natala, Naiwali, Jan 2011, MH.  
**c** *A. tanzanica* (1483). TAN Njombe R, Wanging'ombe D, Kidugala, Jan 1993, TN.





a

**a** *Cantharellus splendens* (2013228). ZAM Muchinga P, Mungwi D, Chilapila, Feb 2013, HK.  
**b** *C. splendens* (2013195). ZAM Central P, Mkushi D, North Swaka Forest Res., Feb 2013, HK.



b

### Cantharellus splendens

**Cap** 6–14 cm diam., first convex then flat and finally depressed at centre, margin entire or lobed. Surface smooth, orange-red, with a faint purple tint. Gills orange-red, distant, fairly thick, decurrent, with lamellulae of various lengths and some forkings. Stipe 3–6 × 1–2.8 cm, cylindrical, tough, surface matt, concolorous with gills. Context white, under the surface orange-coloured, tough in particular in stipe. Taste mild; smell pleasant, fruity.

**Notes** Red colour makes this species somewhat similar to *Cantharellus platyphyllus* and *Cantharellus symoensii*, but gills are

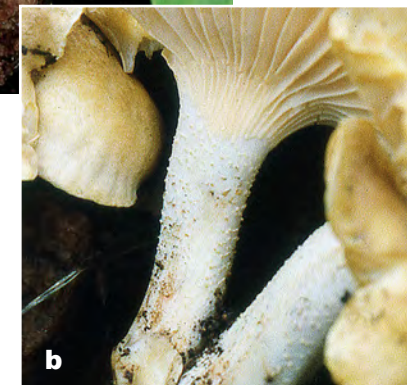
not yellow as they are in those two species. We collected this tall chanterelle only in Zambia. Bart Buyck described it in his book *Ubowa (Publ. Agricole 34)* from Burundi, where it is a widely consumed edible species; André De Kesel *et al.* (*ABC Taxa 17*) found it in Katanga, DR Congo, where it is rare. Our field notes were minimal of this species, and the description above was mostly compiled from the two mentioned publications. Long spores are reminiscent of those of *Cantharellus symoensii*, but they are shorter and thicker, mostly straight, not constricted in the middle.

**Spores** (7.9–)8.8–11.2(–11.5) × (4.6–)4.7–5.6(–6.2) μm, mean 9.59 × 5.24 μm, Q=1.83, ellipsoid to broadly cylindrical, seldom slightly curved, obtuse-ended. Hyphae without clamp connections.



a

**a–b** *Cantharellus stramineus* (1480). TAN Njombe R, Wang'ombe D, Kidugala, Jan 1993, TN & MH.



b

### Cantharellus stramineus

**Cap** 5–10 cm diam., fleshy, at first convex to flat, then funnel-shaped, with wavy edge, pale greyish yellow. Surface faintly punctate at edge, squamulose in the middle. Gills decurrent, forked near the margin, concolorous with cap, distant, fairly thick, edge smooth. Stipe 4–5 × 1.5–2 cm, tapering, white, silky with pale squamules. Context in cap white but yellowish under the surface, firm, in stipe white, fibrous. Smell fruity, cantharelloid; taste mild.

**Notes** We have collected this species only once, in 1993, in Tanzania from a degraded *Brachystegia–Uapaca* woodland. The Bena woman who was with us in the mushroom foray said it is a good edible mushroom called *Wifindi*. This is in Bena language a collective name for several chanterelles,

for instance *Cantharellus symoensii*. Our beautiful and robust specimens differ from the others in having a straw-coloured cap and white scaly stipe, and we soon realized that it must represent an undescribed species. Only in the year 2016 André De Kesel described this species as *Cantharellus stramineus* from the Katanga Province, DR Congo.

**Spores** (7.5–)7.7–9(–9.1) × (4.5–)4.9–5.9(–6) μm, mean 8.30 × 5.32 μm, Q=1.56, ellipsoid. Hyphae with clamp connections.





a

**a** *Termitomyces eurrhizus* (574). TAN South Pare Mts, Mbaga Manka, Dec 1990, TN.  
**b** *T. eurrhizus* (556). TAN South Pare Mts, Mbaga Manka, Dec 1990, MH.



b

### *Termitomyces eurrhizus*

**Cap** 7–22 cm diam., at first conical to campanulate, then flattened and with a broad umbo. Surface dark brown to chestnut in the middle, paler towards the margin, sometimes chestnut brown all over, silky, striate, roughened and split with age, when moist viscid or with a greasy sheen. Gills adnate to free, crowded, first cream-coloured, then pinkish with a rusty tint, up to 1.2 cm broad. Stipe 5–20 × 1–4 cm, cylindrical and white above, thickening below to up to 4.5 cm in diam. and darkening to black, then tapering into a long, black, slender pseud-

orrhiza. Context white, firm and fleshy in cap, solid and tough fibrous in stipe. Smell and taste mild.

**Notes** *Termitomyces eurrhizus* grows in the vicinity of underground termite nests. It is common in East Africa at least in mountainous areas. In Tanzania it is esteemed as a delicacy and so health-enhancing that it is given to women after childbirth in order to help recovery. A DNA comparison made by Tobias Frøslev *et al.* (*Mycological Research* 94) placed this species next to *Termitomyces striatus*. However, if



a

b

**a** *Termitomyces eurrhizus* (556). TAN South Pare Mts, Mbaga Manka, Dec 1990, TN.  
**b** *T. eurrhizus* (559). TAN South Pare Mts, Mbaga Manka, Dec 1990, TN.

macroscopy is considered, *Termitomyces globulus*, *Termitomyces robustus* and *Termitomyces umkowaani* are the closest look-alikes.

**Spores** (7–)7.5–9.2(–9.6) × (4.1–)4.5–5.2(–5.5) μm, mean 8.31 × 4.85 μm, Q=1.72, ellipsoid or obovoid, tapered at proximal end, fairly thin-walled, cyanophilous.





**a–c** *Boletus spectabilissimus* (1532 *holotype*). TAN Njombe R, Wanging'ombe D, Kidugala, Feb 1993, TN & TS.

**Notes** The Bena call this *Windima* or *Wit-ima* and use it for food after cooking and drying, but do not consider it delicious. We found this in heavily grazed degraded miombo woodland, and Roy Watling described it for science in 2003. The blackening of the context and tubes make this bolete distinctive. Contrary to *Boletus loosei*, the staining does not fade away but strengthens in time, and black stain is seen still in dried specimens. Larval cavities are black-lined, too. Cathy Sharp (*Pocket Guide to Mushrooms in Zimbabwe vol. 1*) published a photograph. To our knowledge these are the only records of the species.

**Spores** (8.8–)9–11.1(–12.4)×4.4–5.5(–5.8) μm, mean 9.87×4.83 μm, Q=2.04, narrowly ellipsoid to subfusiform, pale brown, smooth, acyanophilous. Clamp connections not seen.

### *Boletus spectabilissimus*

**Cap** 7–9 cm diam., hemispherical, compact, robust. Surface intense scarlet red, matt, minutely rugulose; edge overhanging as a sharp rim. Tubes 1 cm long, white but blackening on cutting; pores small, with red tube mouths giving a bright red aspect to the underside. Stipe 7×2–4 cm, with a bulbous base, tapering upwards, matt, with bright red reticulation on orange-red background; bruised surface grey. Context firm, white, cut surface becoming purplish grey in cap and reddish in stipe, later purplish grey throughout, and finally black. Smell none; taste mild.

Boletes: *Boletus*



**a–c** *Gyrodon intermedius* (571). TAN South Pare Mts, Mbaga Manka, Dec 1990, TN & TS.

### *Gyrodon intermedius*

**Cap** 4–7 cm diam., convex; margin sharp and often lobed. Surface smooth, matt, copper-red, densely dotted with minute red-brown squamules. Tubes decurrent, 0.2–0.4 cm long, yellow, turning green on cutting; pores large, composed of gill-like radial dissepiments 3–5 mm apart at the edge, these divided by transverse septa into angular pores 1–1.5 mm diam, with 3–5 secondary pores deeper inside; pore surface turning greyish green upon touch. Stipe 2–6×1–2.2 cm, eccentric, tapering downwards, smooth, yellowish purple, ash-grey at the very base. Context soft, in cap up to 1.2 cm thick, yellow, turning blue in all parts in *ca* 10 seconds. Smell and taste not recorded.

**Notes** Bright colours, complex pore architecture and rapid blueing characterize this species. It is said to be common in mon-

tane forests of South Pare Mts, and our interviewee considered it poisonous. However, we could not verify if this particular species caused any poisonings. Our photographs were taken on a rainy day, which is why the caps look slimy.

**Spores** (7.5–)7.7–9.1(–9.4)×(4.8–)5–5.7(–6) μm, mean 8.41×5.28 μm, Q=1.60, blunt-ended ellipsoid, brown, thick-walled, dextrinoid, strongly cyanophilous. Hyphae with clamp connections.

Boletes: *Gyrodon*



**a** *Microporus affinis* (800). TAN East Usambara Mts, Amani, Marvera Tea Estate, Jan 1971, TN.  
**b** *M. affinis* (412). TAN East Usambara Mts, Amani, May 1988, TN.



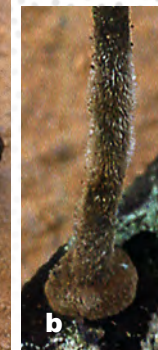
very small, 7–9 per mm; non-pore margin bordering the edge 0.1–0.2 cm wide, distinct. Stipe (if any) lateral, 0.5–3×0.5–1 cm, concolorous with upper surface, attached to wood with a disc-like foot. Context white, corky to woody; a black-brown line (cuticle) on the surface extremely thin, hardly seen without a lens.

### *Microporus affinis*

**Fruit body** annual or living for a few seasons, stipitate, substipitate, fan- or shelf-shaped, corky, when dry woody; cap 3–10 cm wide, 0.2–0.4 cm thick, projecting 3–9 cm. Surface with sharp-delimited zones, some of them glabrous, others velvety tomentose, purple-brown, yellow-brown, or greenish. Edge sharp, stiff, regular, at first white, later concolorous with upper surface. Pore surface cream-coloured, pores

**Notes** Saprotrophic on stumps, fallen tree-trunks and branches in rain forests, moist montane forests and riverine thickets. A common white-rot fungus. This is the largest of the *Microporus* species dealt with here.

**Spores** (3.2–)3.3–4.1(–4.2)×(1.5–)1.6–2(–2.2) μm, mean 3.68×1.81 μm, Q=2.04, ellipsoid. Hyphal structure trimitic with clamp connections.



### *Microporus alboater*

**Fruit body** annual, centrally stipitate, thin; cap circular, depressed, 2–6 cm diam., 0.1–0.2 cm thick. Surface glabrous, faintly zonate, dark reddish brown to almost black, with thin radiating lines. Edge papery thin, in growing pilei white, soon concolorous, incurved when dry. Pore surface white, pores 7–9(–10) per mm. Stipe dark brown to black, thin like a straw of grass, 2–4×0.2–0.3 cm, covered by stiff minute hairs along half of its lower part and often in patches also higher up, with a foot-like swollen base. Context corky, white, with a thin dark cuticle along the surface, seen in a section as a black hairline.

**Notes** The species name comes from the Latin words *albus* (white) and *ater* (black). This 'Black-and-White Polypore' is a rain-forest species and evidently rare: Leif Ryvardeen (*Preliminary Polypore Flora of East Africa*) reports it from Cameroon and DR

**a–c** *Microporus alboater* (4589). TAN East Usambara Mts, Amani, Dec 1988, TN

Congo. It is more slender than *Microporus incomptus* (next species), darker and more evenly coloured above, and the hairiness of its stipe is distinctive.

**Spores** 5–6×1.5–2 μm according to Ryvardeen; all specimens studied by us were sterile.





Mackintoshia persica (2013218). ZAM Northern P, Mpika D, Lwikutila Falls, Feb 2013, MH.



**a** Mycoamaranthus congolensis (2013191). ZAM Central P, Mkushi D, North Swaka For. Res., Feb 2013, MH.  
**b** M. congolensis (2013167). ZAM Central P, Mkushi D, Myafi For. Res., Feb 2013, MH.



### Mycoamaranthus congolensis

**Fruit body** 4–7 cm diam., globose to irregularly potato-shaped, or 2–3 globose units partly merged together. Surface smooth, matt, bright neon yellow, but finally with rusty tints. Contents (*gleba*) fleshy firm, at first pink then bright orange-red, darkening later to milky-cocoa-coloured and becoming chambered with plates of yellow tissue. Base unspecified, attached to soil with a few bright yellow, root-like mycelial strands. Smell weak, acrid; not tasted by us.

**Notes** Growing half buried in the soil in miombo woodlands, according to Cathy Sharp (*Pocket Guide to Mushrooms in Zimbabwe 2*) under *Uapaca*. Our two Zambian

informants rejected this kind of fungus, but one of them knew an older person who collects it for food. Michael A. Castellano *et al.* (*Karstenia 40*) say this is eaten in Burundi and Malawi. These authors and Sharp report collections from Zimbabwe. The species was originally described from the Katanga Province, DR Congo.

**Spores** (10.9–)11.7–14.2(–15)×(7.2–)7.5–8.8(–9.3) μm, mean 12.76×8.13 μm, Q=1.57, ellipsoid but apically tapered, thick-walled, minutely warted, yellow-brownish, dextrinoid, cyanophilous; juvenile spores smooth, less thick-walled. Hyphae with no clamp connections.