

Conocybe anthuriae, a new volvate species from Mauritius (Africa)

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Abstract: *Conocybe anthuriae*, a volvate species found in a glass house of an *Anthuria* plantation in Mauritius, is described as new and documented by drawings of microscopic features. It differs from the other volvate *Conocybe* species especially by its small basidiomes with a brown, soon pallescent and non-striate cap as well as different microscopic characters. Its delimitation to similar taxa is discussed and a key to all worldwide known volvate species of *Conocybe* sect. *Singerella* is given.

Zusammenfassung: *Conocybe anthuriae*, deren Stielbasis eine häutige Volva hat, und die im Glashaus einer Anthurienpflanzung in Mauritius gefunden wurde, wird als neue Art beschrieben und mittels Mikrozeichnungen dokumentiert. Sie unterscheidet sich von den anderen volvaten *Conocybe*-Arten besonders durch kleine Fruchtkörper mit braunem, bald ausbleichendem und nicht gerieftem Hut sowie durch andere mikroskopische Merkmale. Ihre Abgrenzung zu ähnlichen Arten wird diskutiert und ein Schlüssel aller bisher bekannten *Conocybe*-Arten der Sektion *Singerella* wird gegeben.

There are only a few species of *Conocybe* with a volvate stipe base. All are extremely rare and some of them known only from one or two collections. With the exception of one species they are all extra-European. WATLING (1979) described two new species of this group and proposed a new section for species with a volva, sect. *Singerella* WATLING. WATLING (1979) also presented a survey of all hithero known species of the new section and an ample discussion of all earlier described taxa which possibly belong therein. The first and only European species of this section, *Conocybe hornana* SING. & HAUSKN., was later described from Austria (SINGER & HAUSKNECHT 1988).

In January 1995, the second author collected in Mauritius (Africa) a small volvate *Conocybe* species which could not be affiliated with any of the known taxa. Therefore it is described as new.

Conocybe anthuriae WATLING & HAUSKNECHT, spec. nova (Figs. 1-7)

Pileus 6-15 mm latus, campanulato-convexus vel leviter expanso-convexus, in statu juvenili ochraceo-mellinus vel bubalinus mox pallide flavido-aurantiacus, in statu juvenili pluvio estriatus ad marginem pallidus et radialiter sulcatus. Lamellae adnatae

leviter ventricosae subdistantes cremeae vel albido-argillaceae postremo pallido-ochraceae. Stipes 15-30 x 1-1,5 mm bulbosus et volvatus ad apicem striato-pruinosis vel pubescens. Caro tenuis, odor nullus.

Basidiosporae 10,5-13 x 7-8,3 μ m ellipsoideae poro germinativo. Basidia 4-sporigera 18-25 x 10-14 μ m. Cystidia aciei lamellarum 20-25 x 8-11 μ m lecythiformia capitulo 4-6 μ m. Cystidia stipitis 9-30 x 6-10 μ m fere utriformia altera clavata ad apicem semper obtusa et pilis angustibus longis 2-2,5 μ m latis immixtis. Cellulae cuticulae pilei spheropedunculatae 22-45 x 5-30 μ m. NH₄OH reactio nulla. In locis humidis.

Typus: Mauritius (Africa), prov. Plaines Wilhelms, Henrietta, 27. 1. 1995, leg. A. HAUSKNECHT S2594 (WU 17024, holotypus; isotypus in E).

Characters

Cap: 6-15 mm broad, up to 10 mm high, campanulate-convex, only slightly expanding; the youngest specimen camel, sun brown to tan (KÖRNERUP & WANSCHER 1975: 6D4, 6D5), soon pallescent to dirty yellowish orange (5AB4) in the centre, more yellowish white to pale alabaster (5A2-3) near the margin; hygrophanous, non-striate even in youngest stages; surface at first nearly smooth soon distinctly radially sulcate, pubescent when dry. No veil seen even when very young.

Lamellae: adnate, quite distant, slightly ventricose, very pale even when mature, cream-colour to café-au-lait, pale yellowish brown, with concolorous, straight edge.

Stem: 15-30 x 1-1.5 mm, terete, with conspicuously bulbous base up to 3 mm broad, distinctly volvate; white to whitish cream, base not darkening even in old basidiomes; pruinose to pubescent-striate; volva white, very conspicuous, membranous with uneven, slightly denticulate margin.

Context: very thin, no distinct smell recorded.

Spores: 10.5-13 x 7-8.3 μ m, $\emptyset$ = 11.7 x 7.7 μ m, Q = 1.4-1.6, ellipsoid, never lentiform, with prominent germ-pore (1-1.5 μ m) and thick to very thick (up to 1.5 μ m) wall; in water mustard yellow (3AB6) with concolorous wall, in KOH nearly dark reddish brown (approaching 7DE8) with distinct wine-red wall.

Basidia: 4-spored, 18-25 x 10-14 μ m, with clamp-connections.

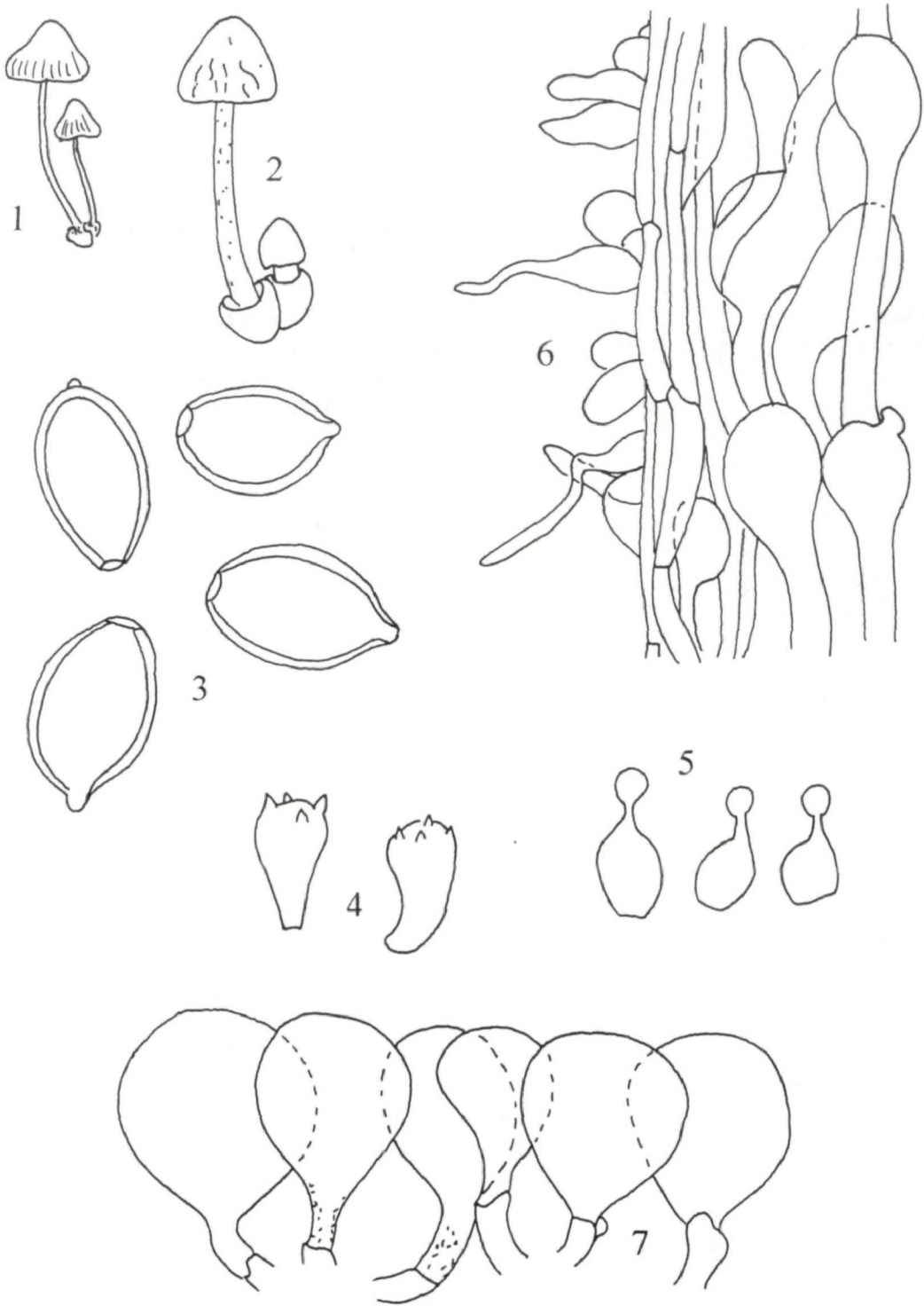
Cheilocystidia: lecythiform, often collapsed, 20-25 x 8-11 μ m, capitulum 4-6 μ m diam.

Ammoniacal reaction: negative, even after 10 hours.

Caulocystidia: 9-30 x 6-10 μ m, in small groups, fusiform, subutriform to elliptic, with few hair-like elements up to 40 μ m long and 2-2.5 (base 8) μ m broad; trama of stem in young stages formed of extremely swollen, sometimes clamped hyphae up to 20 μ m broad (see Fig. 6), in old specimens more parallel and not as broad.

Pileipellis: a hymeniderm, composed of regularly sphaeropedunculate cells (22-45 x 15-30 μ m, in young cap only up to 16 μ m broad). Neither cystidia nor hairs present.

Habitat: caespitose to subcaespitose in open glass-house of an *Anthuria* plantation, on soil mixed with compost of sugar cane; single collection HAUSKNECHT S2594.



Figs. 1-7. *Conocybe anthuriae*, type. - 1. Basidiomes, x 1; - 2. Young specimens, x 5; - 3. Spores, x 2000; - 4. Basidia, x 800; - 5. Cheilocystidia, x 800; - 6. Stipe covering and hyphae of the context of young stipe, x 800; - 7. Epicutis, x 800.

The new species is characterized by small basidiomes with a $\pm$ brown, soon pallescent, non-striate cap, white to whitish, short stem with membranous volva, $\pm$ caespitose growth, large, ellipsoid, never lentiform spores with a thick wall and a prominent germ-pore, and a stem covering lacking lecythiform cystidia.

Most of the species with a volvate stipe base, e.g., *Conocybe corneri* WATLING, *C. locellina* (MURR.) WATLING and *C. hornana*, have much larger basidiomes. The only comparable taxon with smaller basidiomes is *C. vaginata* WATLING. It is distinguished by a much longer stipe, a somewhat differently coloured, strongly striate and glabrous cap, distinctly lentiform spores and growth (solitary?) in tropical rain forest (one collection on rotten wood). The "smaller specimens" of *Conocybe hornana* mentioned by SINGER & HAUSKNECHT (1988: 90, figs. 1 b and c) differ in a much longer stipe, more brownish orange to yellowish brown cap which is pubescent by long hair-like pileocystidia, and a fragile, non-membranous volva with sometimes appendiculate veil remnants on the cap margin and veil zones on the stem above the volva.

Key to worldwide *Conocybe* species with a volvate stipe base:

- 1 Basidiomes large; cap often more than 3 cm (up to 7 cm) broad, stem up to 10 (16) cm long, more than 2 mm (to 10 mm) diam. 2
 - 1* Basidiomes small; cap only up to 2 cm, stem less than 8 cm high and 2 mm in diam. 4
 - 2 Cap and stem purple, livid vinaceous to pinkish grey; stem covered with a mixture of vesiculose, clavate and lecythiform cystidia; spores small, up to 11 x 6.5 μ m; Malaya, New Guinea
- C. corneri***
- 2* Cap orange-brown or isabelline, stem never purplish; stem covering lacking lecythiform cystidia; spores 11-14 x 7-9 μ m 3
 - 3 Cap orange to vivid yellowish brown, non-striate, with wrinkled surface when older; spores somewhat lentiform, with very thick (1 μ m) wall. Volva fragile; veil remnants in fresh specimens on cap margin and above the volva as distinct zones present; spore print dark brown; Austria, Germany and Spain
- C. hornana***
- 3* Cap isabelline, dirty yellowish, closely striate; surface not wrinkled when older; spores ellipsoid, inequilateral in side-view, with wall only up to 0.4 μ m thick. Volva membranous with entire limb, no velar remnants on cap margin or stem mentioned. USA (Florida)
- C. locellina***
- 4 Cap camel, sun brown, pallescent to dirty yellowish brown, alabaster, non-striate, distinctly radially sulcate when old; stem up to 3 cm long; spores ellipsoid, not lentiform; without pileocystidia; caespitose; Mauritius
- C. anthuriae***
- 4* Cap beige brown to greyish beige, distinctly striate, glabrous; stem up to 8 cm long; spores distinctly lentiform compressed; with hair-like pileocystidia; solitary (?); New Guinea

C. vaginata

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