

## ***Mycena bhuglooi*, a new species of section *Sacchariferae* (Agaricales, Tricholomataceae) from Mauritius (Africa)**

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**Abstract:** *Mycena bhuglooi*, a member of sect. *Sacchariferae*, is described as new from Mauritius (Africa). It was found by the second author several times in tropical broadleaf forests. Delimitation from related taxa is discussed. A colour plate and microscopical drawings are given.

**Zusammenfassung:** *Mycena bhuglooi*, ein Vertreter der Sektion *Sacchariferae*, wird von Mauritius (Afrika) neu beschrieben. Sie wurde vom Zweitautor mehrmals in tropischen Laubwäldern gefunden. Die Abgrenzung zu nahestehenden Taxa wird diskutiert. Eine Farbtabelle sowie Mikrozeichnungen werden gegeben.

Since 1993, the second author collected agarics during several visits on the islands Mauritius and Réunion. Within a number of interesting collections of agarics, six species of *Myceneae* have been described as new (MAAS GEESTERANUS & HAUSKNECHT 1995, 1996, 1998, 1999; ROBICH & HAUSKNECHT 2001). Up to now, all specimens of taxa belonging to the genus *Mycena* from this islands turned out to be new to science, there was not a single collection of a taxon already described in literature.

The species presently treated is known to the second author since 1993, but all collections were insufficient or partly damaged by weather influence for serving as type material. In January 2008, accompanied by SATYDEO D. BHUGLOO, a Mauritian friend of the second author for many years, a rich collection was made which can be used as type material.

As no other taxon similar to our new species could be found in the recent or most important *Mycena* literature from overseas, viz. CORNER (1994), DESJARDIN (1993, 1995), DESJARDIN & BESSETTE (1997), GRGURINOVIC (1997, 2003), MAAS GEESTERANUS (1983), MAAS GEESTERANUS & DE MEIJER (1997, 1998), MAAS GEESTERANUS & OVREBO (1997), MÉTROD (1949), PEGLER (1977, 1983, 1986), and SINGER (1961, 1969, 1986), it was decided to describe it as new:

***Mycena bhuglooi* ROBICH & HAUSKN., spec. nova** (Figs. 1-3)

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**Latin description:** Pileus 9-24 mm latus, conico-campanulatus, hemisphaericus, sine umbo, hygrophanus, striatus, viscido-glutinosus; primum obscure griseus, brunneo-griseus, centro nigro, deinde pallide griseo-brunneus, argenteus. Lamellae liberae vel fere liberae, sine collo, albido-griseae ad griseae, acies lamellarum leviter gelatinosa. Stipes 18-25 × 1,2-2 mm, cylindricus, albus, e basi sursum griseo-ochraceus, superficies omnino albo-tomentosa, basis bulbosa ad 4 mm, tomentosa. Caro odore nitroso. Sporae 6-6,5(-7,5) × 5,5-6 μm, subglobose, amyloideae. Basidia tetraspora, clavata. Cheilocystidia 22-35(-56) × (15-)17-25 μm, laevia, utriformia, longirostria, aciem lamellarum sterilem facientia. Pleurocystidia nulla. Hyphae pileipellis 2-9 μm latae, laeves, gelatinosae, cellulae terminales clavato-elongatae, superficies oblecta surculis simplicibus valde tenuibus. Hyphae stipitis corticales laeves, cellulae terminales lanceolatae; basis stipitis (bulbus) oblecta elementibus longis, lanceolatis vel piliformibus. Fibulae praesentes. Trama pileo stipiteque dextrinoidea. Fasciculatus ad lignum putridum arboribus latifoliis tropicis.

**Typus:** Mauritius, Savanne, Baie du Cap, 21. 1. 2008, A. HAUSKNECHT & S. D. BHUGLOO (WU 29010, holotype; isotype in MCVE 23453).

**Etymology:** named after SATYDEO D. BHUGLOO, friend of the second author and co-collector of the type collection.

**Characters:**

**Pileus:** 9-24 mm wide, up to 10 mm high, when young conico-campanulate, then convex to hemispherical or parabolic, without umbo, hygrophanous, with glutinous surface when young, then lubricous, smooth in centre, striate, with brown watery striae, margin deeply striolate; colour young in centre blackish brown, negro, dark grey-brown, saruq (KORNERUP & WANSCHER 1975: 6F2-3, 6F3, 6E3), margin paler, up to brownish grey (6C2); later ± uniformly pale orange grey, birch bark (6C2, 6BC2, 6B2), surface silvery.

**Lamellae:** L = 28-36, l = 1-3, free to almost free, without collarium, crowded, thin; whitish grey to grey, lamellar edge crenulate, slightly gelatinous, white.

**Stipe:** 18-25 mm long, 1.2-2 mm thick, cylindrical, fragile; young white, entirely whitish pubescent, then from base upwards grey-ochre; base bulbous, up to 4 mm wide, with white hairs.

**Context:** whitish to greyish, with weak smell of chlorine gas ("alkaline").

**Sporae:** 6.0-6.5(-7.5) × 5.5-6.0 μm, subglobose, with opaque content in L4, numerous with large oil drop, amyloid.

**Basidia:** 4-spored, 18-25 × 8-10(-12) μm, clavate.

**Clamp connections:** present.

**Cheilocystidia:** 22-35(-56) × (15-)17-25 μm, smooth, swollen, utriform, with apical, straight, curved or tortuose rostrum (-25 × 2-4 μm), forming a sterile band (lamellar edge homogeneous).

**Pleurocystidia:** absent.



Fig. 1. *Mycena bhuglooi*, holotype. – Phot. INGRID HAUSKNECHT.

Hyphae of the pileipellis: 2-9  $\mu\text{m}$  wide, smooth, gelatinous, terminal elements  $\pm$  horizontal, elongate-clavate, 50-110  $\times$  9-20  $\mu\text{m}$ , the superficial layers densely covered by simple, very thin excrescences, 0.5-8  $\times$  0.5  $\mu\text{m}$ .

Hyphae of the stipe: cylindrical, centrally up to 38  $\mu\text{m}$  wide, pseudoamyloid (vinaceous) and metachromatic (violet); hyphae of the cortex 2-9  $\mu\text{m}$  wide, smooth, with lanceolate, smooth elements, at the base 8-22  $\mu\text{m}$  wide and 32-110  $\mu\text{m}$  long, stipe base (bulb) covered by long, lanceolate or hair-like elements (4-13  $\mu\text{m}$  wide).

Trametal hyphae of pileus and lamellae: in the pileus subglobose to globose-vesiculous up to 60  $\mu\text{m}$  wide; in the lamellae globose-elongate up to 54  $\mu\text{m}$  wide, and vesiculous up to 48  $\mu\text{m}$  wide, pseudoamyloid (vinaceous viz. brownish vinaceous).

**Habitat:** cespitose on rotten trunk of tropical hardwood.

**Material examined (besides type):** Mauritius: Grand Port, Domaine de Chasseur, on stump of broadleaf tree, 4. 2. 1995, leg. A. HAUSKNECHT (WU 14897); - Black River, Black River National park, on rotting wood, 1. 2. 2001, A. HAUSKNECHT (herb. HAUSKNECHT); - Moka, Salazie, on very rotten wood, 23. 1. 2008, A. HAUSKNECHT (WU 29011).

#### Notes:

The macroscopical description was compiled by the collector from fresh material and subsequently completed by observations on herbarium material. The microscopical characters were described from herbarium material.

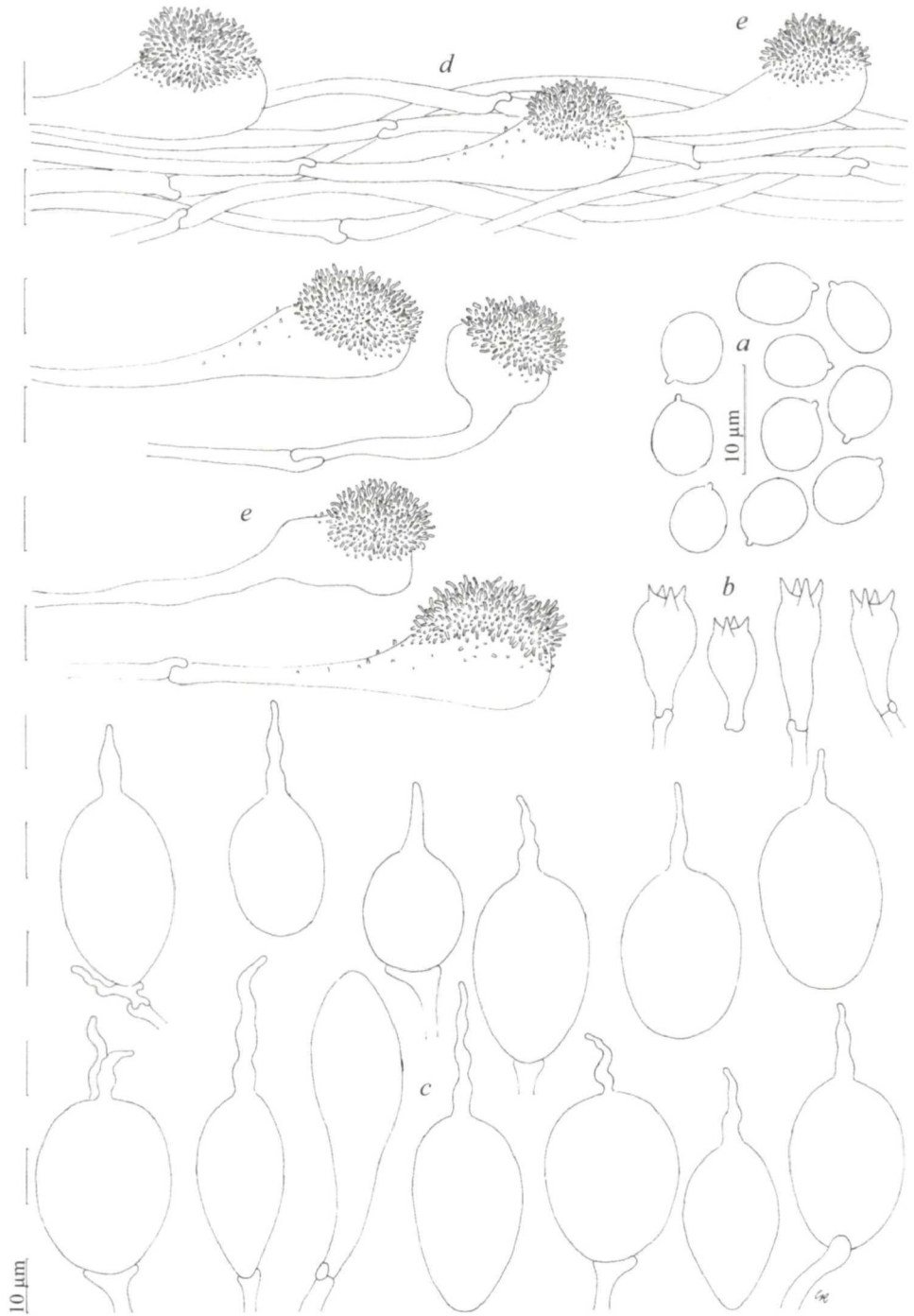


Fig. 2. *Mycena bhuglooi*, holotype. a spores, b basidia, c cheilocystidia, d hyphae of pileipellis, e terminal elements. – Bars: 10 µm.

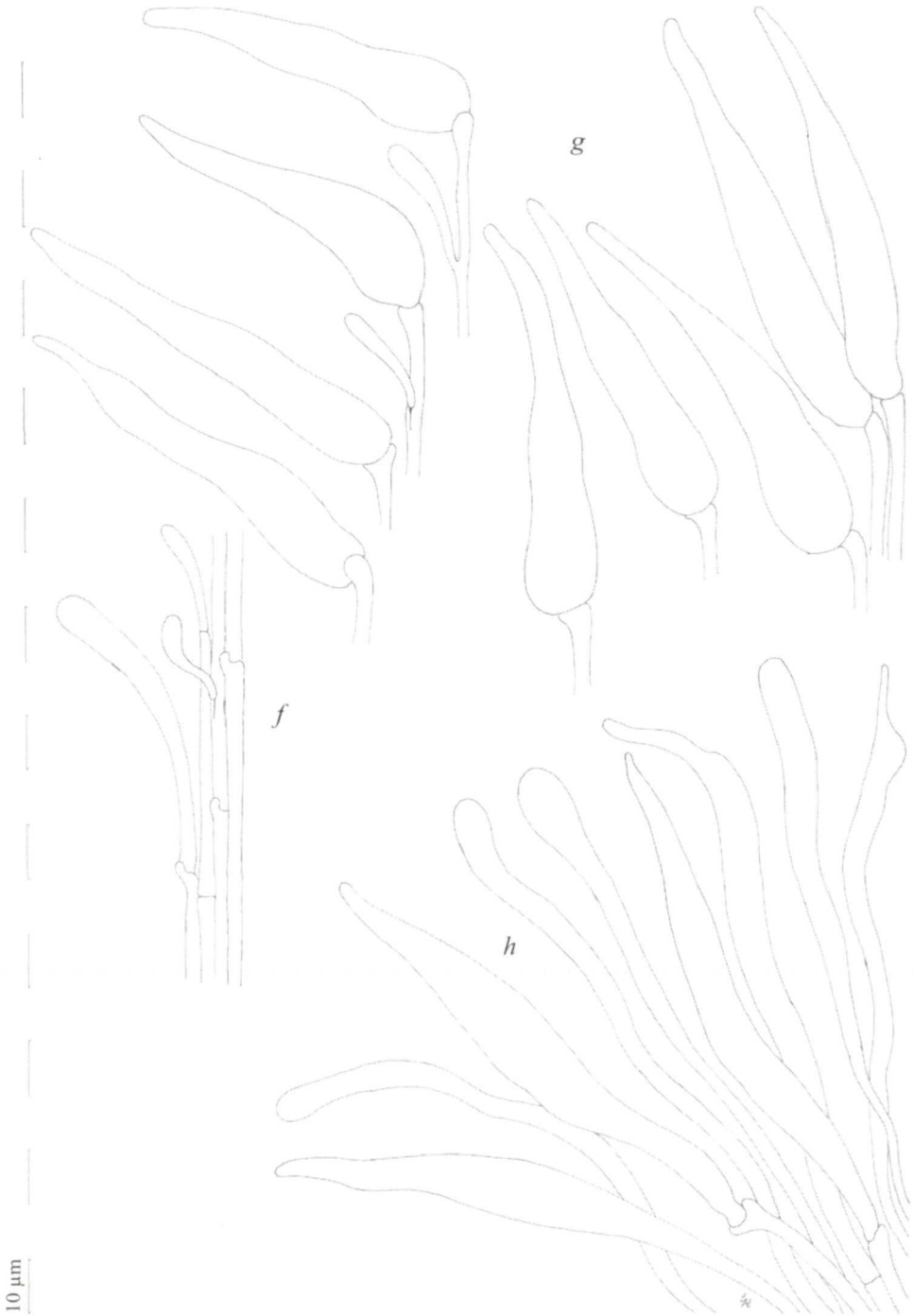


Fig. 3. *Mycena bhuglooi*, holotype. *f* hyphae of the cortex of stipe, *g* terminal elements of the stipe, *h* hair-like elements of the bulbous base of the stipe. – Bar: 10 μm.

The clavate-elongate terminal cells of the hyphae of the pileipellis, which are rather swollen,  $\pm$  horizontal, and in the superficial layers covered by thin excrescences suggest the position of *M. bhuglooi* in sect. *Sacchariferae*. Considering this pileipellis character and the smooth cheilocystidia without excrescences, the taxon has to be compared with *M. carmeliana* GRGUR. (GRGURINOVIC 2003: 266), *M. fumosa* GRGUR. (GRGURINOVIC 2003: 271), and *M. banksiae* CLELAND & CHEEL (GRGURINOVIC 1977: 263, 2003: 275).

*Mycena carmeliana* has characters different from *M. bhuglooi*: brown, watery brown, orange-brown, shining pileus, with a small greyish-orange zone; base of stipe with a bright orange radially striate basal disc; ellipsoid or narrowly ellipsoid spores,  $6.3-9.6 \times 4-6.4 \mu\text{m}$ ; cheilocystidia fusoid-ventricose, cylindro-ventricose and obpyriform,  $27-87 \mu\text{m}$  long; pileal surface consisting of filamentose repent hyphae  $1.6-5.9 \mu\text{m}$  wide; hyphae of the stipe surface  $1.5-4 \mu\text{m}$  wide, and habitat on litter of *Pinus radiata*, logs, rotten branches and needles of *Eucalyptus* and at the base of *Banksia ericifolia*, all together characters different from *M. bhuglooi*.

*Mycena fumosa* differs from our new species by a whitish stipe and whitish or brownish basal disc; spores narrowly ellipsoidal to ellipsoidal,  $7-10.2 \times 4-6 \mu\text{m}$ ; basidia  $6.8-14.1 \mu\text{m}$  wide; cheilocystidia  $5.4-16 \mu\text{m}$  wide; pileal surface consisting of filamentous repent hyphae,  $1.8-5.5 \mu\text{m}$  wide; hyphae of the stipe surface  $1.5-3.5 \mu\text{m}$  wide, and habitat on fallen logs and twigs in *Eucalyptus* forest.

*Mycena banksiae* can be distinguished from *M. bhuglooi* by the stipe attached to the substratum by a white, fluffy disc; spores ellipsoidal, rarely widely ellipsoidal to subglobose,  $6.7-11(-12.1) \times 4.4-7.7 \mu\text{m}$ ; cheilocystidia clavate, widely clavate or fusoid-ventricose; pileal surface consisting of filamentous hyphae,  $1.1-5.2 \mu\text{m}$  wide, caulocystidia absent, and habitat on trunks and fallen wood of *Banksia* and *Eucalyptus*.

Some characters like the smooth, swollen apically rostellate cheilocystidia, clavate, horizontal pileocystidia, covered with thin excrescences in the superficial zone and smooth caulocystidia, are found also in *M. fuscoradiata* MAAS GEEST. & HAUSKN. (MAAS GEESTERANUS & HAUSKNECHT 1998: 123), the only member of sect. *Radiatae*. *Mycena fuscoradiata* differs from *M. bhuglooi* by a pileus fairly dark red-brown to reddish grey-brown which is only 2-9 mm wide; less numerous lamellae ( $L = 19-23$ ); a stipe becoming ochraceous-grey at the base with age, 0.7-1 mm wide, attached to the substrate by a white-fibrillose patch; basidia  $10.5-13.5 \mu\text{m}$  wide; context without smell; spores ellipsoidal,  $8.9-10.2 \mu\text{m}$  long; smaller cheilocystidia,  $20-23 \times 15-18 \mu\text{m}$ ; hyphae of the pileipellis  $2.5-4.5 \mu\text{m}$  wide; terminal cells of the pileipellis  $8-10 \mu\text{m}$  wide and of the hyphae of the stipe surface  $1.5-2.5 \mu\text{m}$  wide.

The evident absence of a granular or furfuraceous to floccose surface of the pileus, caused by a thin layer of gelatinous matter; context with chlorine gas smell; amyloid spores; thickened and smooth cheilocystidia; absence of pleurocystidia; hyphae of the pileipellis with thickened, terminal elements, covered with thin excrescences in the superficial zone and the smooth caulocystidia, require also comparison with *M. seclusa* MAAS GEEST. & OVREBO, the as yet only member of sect. *Seclusae* (MAAS GEESTERANUS & OVREBO 1977: 395).

*Mycena seclusa* differs from *M. bhuglooi* by the pale grey pileus with whitish centre, only 4-12 mm wide; less numerous lamellae ( $L = 22-27$ ); thinner stipe only 1 mm

thick; basidia 15-18 µm long; ellipsoid spores, 6.5-9 × 4-5.5 µm; cheilocystidia largely rounded, 13.5-27 × 8-11 µm, smooth or with apical excrescence; hyphae of the lamellar trama 4-10 µm wide, and hyphae of the pileipellis and the cortex of the stipe 1.8-2.5 µm wide.

*Mycena fuliginosa* MAAS GEEST & DE MEIJER (MAAS GEESTERANUS & DE MEIJER 1998: 34) and *M. umbratilis* MAAS GEEST & DE MEIJER (MAAS GEESTERANUS & DE MEIJER 1998: 40) are two species of sect. *Sacchariferae* collected in Brasil, with stipe 0.2-0.4 µm thick, without basal disc; small pileus, 1.5-3 µm wide; spores ellipsoid-cylindrical or cylindrical, 8.7-10.3 µm or 8.5-10.3 µm wide, respectively; cheilocystidia only 7-10 µm wide; hyphae of the pileipellis 2.5-4.5 µm wide, and hyphae of the stipe surface 1.8-3.5 µm wide, differing by all these characters from *M. bhuglooi*.

In conclusion, *M. bhuglooi* is a new taxon of sect. *Sacchariferae* near *M. carmeliana*, *M. fumosa* and *M. banksiae*.

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