

NOVELTIES IN THE FAMILY PSATHYRELLACEAE. PART III

Abstract

In this contribution some more names are recombined following modern systematics, and some new species are formally recognized from what are considered misidentified determinations. The file 'Key to Psathyrella s.l.' (https://www.ameronlus.it/chiavi_micologia.php) contains now two partitions treated on a world, not only European, scale: Section Cystopsathyra and Subsection Spadiceogriseae.

Riassunto

In questo contributo altri nomi vengono ricombinati seguendo la sistematica moderna e alcune specie, nate da determinazioni considerate errate, vengono riconosciute formalmente. Il file "Key to Psathyrella s.l." (https://www.ameronlus.it/chiavi_micologia.php) contiene ora una sezione e una sottosezione trattate su scala mondiale, non solo europea: sezione Cystopsathyra e sottosezione Spadiceogriseae.

TAXONOMIC NOVELTIES**New combinations**

Coprinellus plicatiloides (Buller) Voto, comb. nov. [MB 835328]. Basionym: *Coprinus plicatiloides* Buller, *Researches on Fungi* 1: 69, 1909.

Notes

Coprinus plicatiloides is recognized as a synonym of *Coprinellus curtus* (Kalchbr.) Vilgalys, Hopple & Jacq. Johnson by various authors, among which ORTON & WATLING (1979) and ULJÉ (2005). However *Coprinellus curtus* is described as having capitate pileocystidia by all modern authors, while REID (1975) in his revision of the South African type material found them to have a mere cylindrical neck above a ventricose base. If this parameter should be a sufficient character for recognizing two separate taxa, then it would be the European taxon to need a new name and in this case the recombination here proposed could serve legitimately for it.

Coprinopsis caracasensis (Dennis) Voto, comb. nov. [MB 835329]. Basionym: *Coprinus caracasensis* Dennis, *Kew Bull.* 15 (1): 119, 1961.

Notes

In part I (Voto, 2019), *Coprinus caracasensis* was erroneously recombined into Genus *Coprinellus* out of a graphic mistake.

Coprinopsis discipes (Pat.) P. Voto, comb. nov. [MB 835330]. Basionym: *Coprinus discipes* Pat., *Journal de Botanique (Morot)* 3: 339, 1889.

Notes

This new combination is based on the type revision by PEGLER (1983).

Coprinopsis fagnani (Raithelh.) P. Voto, comb. nov. [MB 835331]. Basionym: *Coprinus fagnani* Raithelh., *Diagnoses fungorum et combinationes novae*. *Metrodiana Sonderheft* 4: 8, 1990.

Coprinopsis gelatinosa (D.A. Reid & Eicker) P. Voto, comb. nov. [MB 835332]. Basionym: *Coprinus gelatinosus* D.A. Reid & Eicker, *Mycotaxon* 73: 174, 1999.

Coprinus steppicola (Kalamees) P. Voto, comb. nov. [MB 835334]. Basionym: *Coprinus vosoustii* var. *steppicola* Kalamees, *Folia Cryptogamica Estonica* 15: 6, 1981.

Psathyrella sachaensis (Singer) P. Voto, comb. nov. [MB 835335]. Basionym: *Cystoagaricus sachaensis* Singer, Nova Hedwigia 29(1-2): 47, 1977.

Notes

Morphological data assign this species to section *Cystopsathyra* (of the Genus *Psathyrella*), not to Genus *Cystoagaricus*. It is possible this is only a graphic mistake, not a real misinterpretation.

New taxa for invalid or misidentified descriptions

Coprinosis pernambucensis P. Voto, sp. nov. [MB 835336]

Typus: Brazil, Pernambuco, Recife, Campus of the Federal University of Pernambuco, 29.VIII.1994, M.H. Alves, URM 75784.

Other collections. At same location. 16.IX.1994, URM 75787; 11.IV.1995, 75783; 3.V.1995, URM 75785; 16.V.1995, URM 75786.

= *Coprinus brunneofibrillosus* Dennis sensu Alves *et al.* (1996: 35).

The name refers to the locus typicus, the Campus de la Universidad Federal de Pernambuco (Recife. PE, Brasil).

Pileus 1-2 cm broad, campanulate to hemispherical, cleft and revolute to involute at margin; greyish white at centre, dark grey at margin; covered by rough squamules of veil. Lamellae adnexed to subdecurrent, thin, with parallel sides, edge white; deliquescent. Stipe 20-25 × 1-3 mm, cylindrical, creamish white, smooth, hollow, base adhering to the substrate. Spore print dark brown. Spores 8.4-9.8 × 5.6-8.4 µm, on average 8.7 × 7.6 µm, citriform, thick-walled, yellow to honey-brown in water, greenish in 3% KOH, purplish dull grey in concentrated sulphuric acid; germ pore distinct, central. Basidia 19.6-25.2 × 8.4-9 µm, 4-spored. Pleurocystidia cylindraceous to vesiculose, 64.4-84 × 16.8-30 µm. Pileipellis epithelial. Hyphae of veil 30.8-78.4 × 5.6-11.2 µm, packed, filamentous, tapering, thick-walled, translucently yellow. Clamp connections present. Habitat: on living trunk of *Clitoria fairchildiana* (Benth.) Howard tree.

Notes

Spore quotient is not reported by ALVES *ET AL.* (1996) but, judging by the given figures, a low quotient can be easily inferred. Pileipellis is defined epithelial thus suggesting that a narrow layer of slender hyphae was overlooked. True *Coprinus brunneofibrillosus* has ellipsoid spores (9-11 × 6-7.5 µm) with a higher quotient, lacks pleurocystidia, and grows among grass.

Parasola plicatilopsis P. Voto. Rivista Micologica Romana, Boll. A.M.E.R. 108(3): 132, 2020 ("2019")

Additional notes

Various descriptions of collections sub nomen *Parasola* (*Coprinus*) *plicatilis* are present in extra European literature. Apart from North American descriptions, both modern (e.g. Kwo, 2007) and classical (e.g. KAUFFMAN, 1918), which fit well with the typical concept of this species, commonly distributed in the temperate zone of the boreal hemisphere, some other descriptions from subtropical, tropical and austral areas possess some evident differences.

With a distinctively central germ pore, I have already detached *P. plicatilopsis*, from a description in ALVES & DE Q. CAVALCANTI (1996) from equatorial Brazil, to which some broad-spored collections described by PEGLER (1987, 1966), from Cuba and subtropical Africa, can be included.

With a typically eccentric germ pore, I have found descriptions of micro-spored collections in PEGLER (1983), from the Lesser Antilles, and in KEIRLE *ET AL.* (2004), from the Hawaii, which could be misinterpretations of *P. lactea* (A.H. Sm.) Redhead, Vilgalys & Hopple; while a description in BI *ET AL.* (1997), from subtropical China, could represent instead *P. setulosa* (Berk. & Broome) Redhead, Vilgalys & Hopple. Conversely, a description of macro-spored collections from South Australia, in GRGURINOVIC (1997), I detached into the new species *P. grgurinoviciae* (Voto, 2020).

Psathyrella cystoindica P. Voto, sp. nov. [MB 835337]

Typus: India, Punjab, Sangrur, Balamgarh, 30.VII.2009, K. Amandeep, PUN 4075.

= *Psathyrella sphaerocystis* P.D. Orton sensu Amandeep *et al.* (2015: 132).

The name refers to section *Cystopsathyra* and to the locus typicus, India.

Pileus 2-3 cm broad, 2.5-3 cm high, conical to campanulate; surface dry, creamy brown, hygrophanous, fading to light brown; margin irregular, slightly incurved, splitting, translucent striate, greyish black, cuticle fully peeling; veil white powdery granulose when young, smooth at maturity. Context thin, fragile; taste and odour not distinctive. Lamellae adnate, equal, crowded, moderately broad, up to 0.25 cm broad, white when young, greyish brown at maturity, fragile; edge smooth. Stipe 68-82 × 5-9 mm, cylindrical, tapering upwards, with slightly bulbous base, hollow, white, wholly extensively fibrillose, without annulus, fragile. Spores 7-10(11) × 5-7(7.7) μm, average Q 1.4, probably somewhat lenticular, ovoid to ellipsoidal, smooth, reddish brown in KOH, reddish yellow in Melzer's reagent, germ pore truncate. Basidia 12.8-17 × 6.4-8.4 μm, clavate, 4-spored. Pleurocystidia scattered, 18.5-22.7 × 7-11.4 μm, clavate-pedicellate, with round apex, thin-walled, hyaline. Cheilocystidia 15.5-28.5 × 8.5-10 μm, cylindrical to clavate, thin-walled, hyaline. Pileipellis a 3-4 layered epithelium of vesiculose, subglobose, clavate to piriform, reddish brown in KOH, 28.4-50 × 24-33 μm cells. Veil made of 29-46 μm broad, thin-walled sphaerocysts with granular deposits along the walls. Hymenophoral trama regular. Stipe cuticle hyphal. Clamp connections present in stipe context hyphae. Habitat: caespitose, on mixed cattle dung heap.

Notes

The granular veil correctly locates this Indian finding into section *Cystopsathyra* together with, and close to, *P. sphaerocystis* (AMANDEEP *ET AL.*, 2015), yet all other characters isolate it from any other allied of the section. In particular, much broader spores with lower quotient, much stouter stem and undifferentiated small cystidia do not consent to convincingly assimilate it to any of them.

Psathyrella rawlae P. Voto sp. nov. [MB 835338]

Typus: India, Uttar Pradesh Hills, Nainital, around Sat Tal lake, 29. IX. 1977, G. S. Rawla, PAN 9536.

= *Psathyrella indica* Rawla, Boletus 15: 115, 1991 [illegitimate, later homonym of *P. indica* (Sathe & J.T. Daniel) Singer, 1989].

The name is a dedication to Rawla.

Psathyrella tierramayorae P. Voto, sp. nov. [MB 835339]

Typus: Argentina, Tierra del Fuego, Ushuaia Dept., Tierra Mayor, E. Horak, ZT 74/124.

= *Psathyrella marthae* Singer sensu Horak (1979: 299).

The name refers to the locus typicus.

Pileus 5-25 mm broad, convex, campanulate, when mature subvenose at centre; bright chestnut-brown to deep brown, hygrophanous, drying to argillaceous chestnut-brown or paler; dry, sulcate toward the margin; when young covered with fibrils of veil. Context brownish in the pileus; taste and odour not distinctive. Lamellae adnexed, ventricose, argillaceous when young, turning to greyish argillaceous chestnut-brown; edge white, fimbriate. Stipe 30-55 × 1-2.5 mm, cylindrical with slightly swollen base, hollow, white, dry, covered with sub persistent longitudinal fibrils of veil not forming an evident cortinate zone, fragile. Spore print brown. Spores 9.5-11 × 5.5-6.5 μm, ovoidal un front view, adaxially flattened in side view, smooth, dark, opaque; germ pore distinct and central. Basidia 20-26 × 10-12 μm, 4-spored. Marginal cells 12-30 × 10-12 μm, clavate, hyaline. Pleurocystidia 30-55 × 10-14 μm, fusiform to subulate, progressively tapering to an narrowly obtuse apex, thin walled, hyaline, seldom incrustated. Pileipellis made of globose to clavate, chestnut-brown incrustated in KOH, 10-30 μm broad cells. Clamp connections numerous. Habitat: gregarious, on litter of *Nothofagus pumilio* (Poepp. & Endl.) Krasser tree.

Notes

HORAK (1979) deemed to recognize *P. marthae* in this Fuegian collection notwithstanding various differences. *P. marthae* lacks pleurocystidia, has thicker-set spores ($10.7\text{--}11.3 \times 6.3\text{--}7.3 \mu\text{m}$) and utriform cheilocystidia together with paracystidia (*'ventricosis vel clavatis, late rotundatis ad apicem'*), partly brownish pigmented, on the gill edge. Even admitting pleurocystidia were accidentally unnoticed by Singer, the apically rounded ventricose cheilocystidia would be more consistent with *Lutenses*-type pleurocystidia, rather than *Pennatae*-type as in Horak's material.

The spore colour is *'negras'* in the original Spanish description by HORAK (1979).

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Literature

- ALVES M.H. & DE Q. CAVALCANTI M.A. – 1996: *Coprinaceae en el Campus de la Universidad Federal de Pernambuco*. Boletín Micológico 11(1-2): 33-40.
- AMANDEEP K., ATRI N.S. & MUNRUCHI K. – 2015: *Psathyrella* (Psathyrellaceae, Agaricales) *species collected on dung from Punjab, India*. Current Research in Environmental & Applied Mycology 5(2): 128-137.
- BI Z., ZHENG G. & TAIHUI L. – 1993: *The Macrofungus Flora of China's Guangdong Province*: 1-734. Chinese University Press.
- GRGURINOVIC C.A. – 1997: *Larger Fungi of South Australia*: 1-725. Botanic Gardens of Adelaide and State Herbarium, Adelaide.
- HORAK E. – 1979: *Orden Agaricales*. Flora criptogámica de Tierra del Fuego XI (6). FECIC, Buenos Aires.
- KAUFFMAN C.H. – 1918: *The Agaricaceae of Michigan*. Vol. 1. Michigan Geological and Biological Survey 26-5: 1-924. Lansing, Michigan.
- KEIRLE M.R., HEMMES D.E. & DESJARDIN D.E. – 2004: *Agaricales of the Hawaiian Islands*. 8. Agaricaceae: *Coprinus* and *Podaxis*; Psathyrellaceae: *Coprinopsis*, *Coprinellus* and *Parasola*. Fungal Diversity 15: 33-124.
- KWO M. – 2008, February: *Coprinoid mushrooms: The inky caps*. Retrieved from the MushroomExpert.com Web site: <http://www.mushroomexpert.com/coprinoid.html>.
- ORTON P.D. & WATLING R. – 1979: *Coprinaceae Part 1: Coprinus*. In HENDERSON D.M., ORTON P.D. & WATLING R. (eds), *British Fungus Flora* 2: 1-148, Edinburgh.
- PEGLER D.N. – 1966: *Tropical African Agaricales*. Persoonia 4(2): 73-124.
- PEGLER D.N. – 1983: *Agaric flora of the Lesser Antilles*. Kew Bulletin Additional Series 9: 1-668.
- PEGLER D.N. – 1987: *A revision of the Agaricales of Cuba 2. Species described by Earle and Murrill*. Kew Bulletin 42(4): 855-888.
- ULJÉ C.B. – 2005: 1. *Coprinus Pers.* In: NOORDELOOS M.E., KUYPER T.W. & VELLINGA E.C. (eds). *Flora Agaricina Neerlandica. Critical monographs on families of agarics and boleti occurring in the Netherlands* 6: 22-109. CRC Press.
- VOTO P. – 2019: *Novelties in the family Psathyrellaceae. Part I*. RMR, Boll. A.M.E.R. 107(2): 94-95.
- VOTO P. – 2020 ("2019"): *Novelties in the family Psathyrellaceae. Part II*. RMR, Boll. A.M.E.R. 108(3): 127-133.