

Second report of coprinoid fungi (Psathyrellaceae, Agaricales) in the Dominican Republic

Pietro Voto^{1,a*}, Claudio Angelini^{2,3,b}

¹Via Garibaldi 173, I-45010 Villadose (RO), Italy

²Jardín Botánico Nacional Dr. Rafael Ma. Moscoso, Santo Domingo, Dominican Republic

³Via dei Cappuccini 78/8, I-33170 Pordenone, Italy

^apietrovoto@libero.it; <https://orcid.org/0000-0003-1922-1324>

^bclaudio_angelini@libero.it; <https://orcid.org/0000-0002-5485-6889>

*Corresponding author: pietrovoto@libero.it

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Abstract: Continuing the study of coprinoid fungi of the Dominican Republic (see Angelini, Voto & Alvarado 2023), two more taxa are reported with morphological and molecular data: *Coprinopsis nivea*, with a peculiar set of spore characters combined with a coprophilous habitat, and *Parasola lilatincta*, characterized by lilaceous tints on the pileus, and broad, tridimensional spores with an eccentric germ pore. Both species are not strictly specific to the tropics, being present in different climate zones.

INTRODUCTION

Coprinopsis nivea is a well-known and common species with a cosmopolitan distribution. Its large, tridimensional and angular spores with a papillate apex and an eccentric germ pore, together with a coprophilous habitat, make it easily recognizable inside sect. *Niveae* (Citérin) D.J. Schaf.

Parasola lilatincta was recognized, notwithstanding pleurocystidia could not be found, by the lilaceous tints on the pileus and the peculiar shape and size of the spores, and was phylogenetically confirmed. Lack of pleurocystidia is here registered as an occasional occurrence for this taxon.

MATERIALS AND METHODS

As in Angelini, Voto & Alvarado (2023). Images in habitat by C. Angelini, microscopy images by P. Voto.

TAXONOMY

Coprinopsis nivea (Pers.) Redhead, Vilgalys & Moncalvo
Taxon 50(1): 229 (2001)

Macroscopic characters

Pileus (young specimens not observed) 6 – 30 mm broad, soon expanded convex, radially striate at extreme margin, margin becoming plicate, radially cleft, and deflexed to revolute; grey; covered with abundant but fugacious white velar flocci up to centre.

Lamellae free, close, narrow, grey, deliquescent; lamellulae present.

Stipe 25 – 140 × 1.5 – 4.5 mm at base, progressively tapering upwards to 0.8 – 2.0 mm broad at apex, base not swollen; pale grey; covered with white velar flocci scarce at apex, progressively more abundant towards base.

Microscopic characters

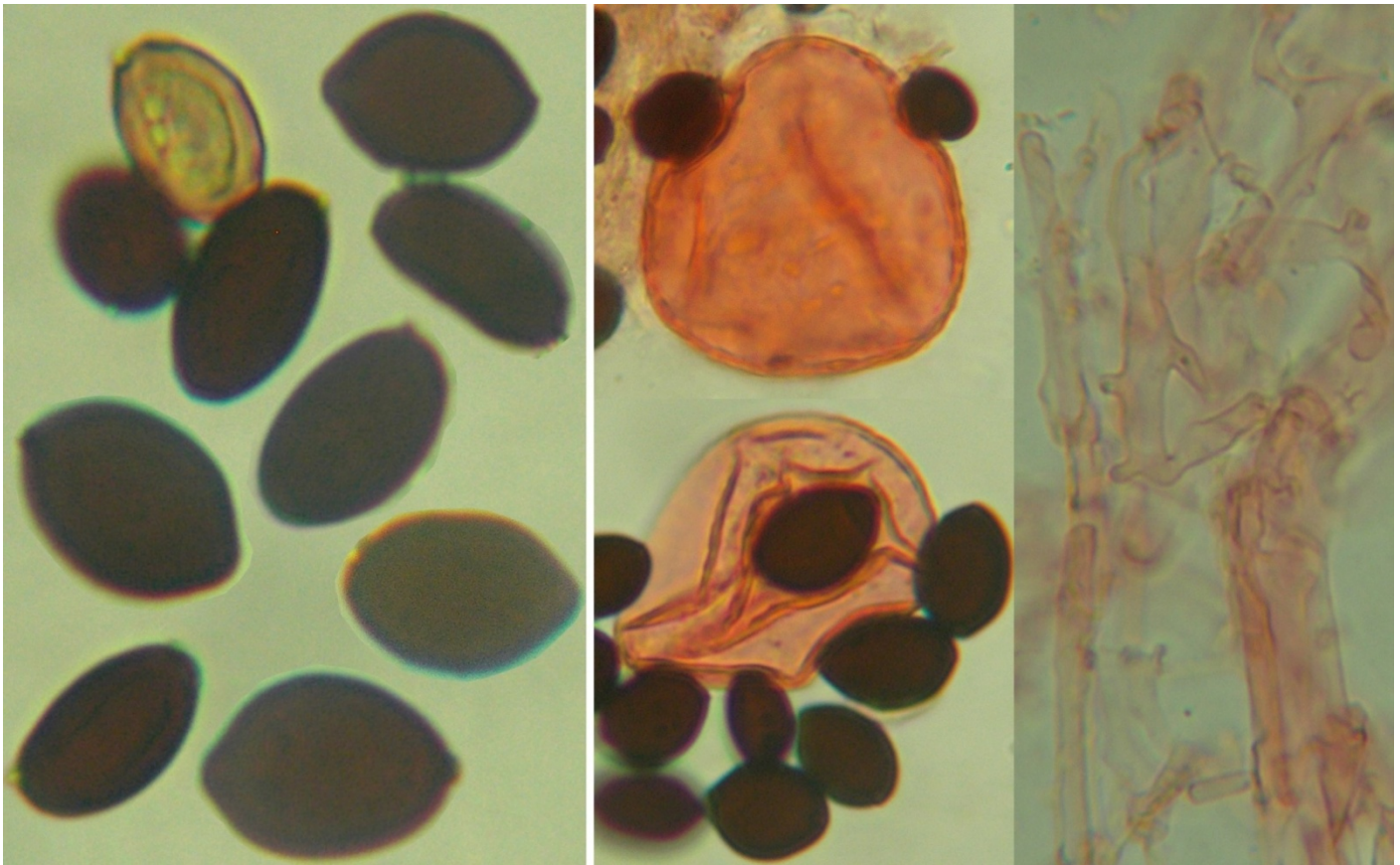
Spores 13.5 – 17.3 × 8.4 – 12.5 × 8.0 – 10.2 μm, Q = 1.23 – 1.81 × 1.69 – 1.81; in front view hexagonal to broadly elliptic, sometimes irregular, apex often papillate, in side view narrowly elliptic; dark brown in water; germ pore eccentric.

Basidia stocky to slenderly clavate, 4-spored.

Pleurocystidia ellipsoid to broadly utriform.

Cheilocystidia not observable because of consumed gill edge.





Left: spores in Congo red; right: cellular elements and connecting hyphae of veil in Congo red

Pileipellis composed of filamentous elements.

Veil composed of globose to broadly ellipsoid, approx. 40 – 70 × 40 – 70 µm, thin-walled, hyaline cells, connected by narrow, diverticulate hyphae.

Clamp connections present.

Habitat and collection examined: Dominican Republic, Puerto Plata, Cabarete, Sea Horse Ranch resort, gregarious on a pile of horse dung mixed with wood sawdust, 14.I.2023, C. Angelini ANGE1831, PAD H0061570; GenBank PP349937 - ITS.

NOTES

Coprinopsis nivea is a common coprophilic species with a worldwide distribution (Uljé 2005). It belongs in the sect. *Niveae* (Citérin) D.J. Shaf. (Schafer 2010) defined with smooth spores and a veil composed of smooth cellular elements or with encrustations easily soluble in hydrochloric acid (HCl). Among the few coprophilic species with very large spores of this section, *C. macrocystidiata* Voto, from North America, differs in its obovoid, non-papillate spores, while *C. pachysperma* (P.D. Orton) Redhead, Vilgalys & Moncalvo, otherwise very similar, differs in having entirely or partially 2-spored basidia.

Parasola lilatincta (Bender & Uljé) Redhead, Vilgalys & Hopple
Taxon 50(1):236 (2001)

Macroscopic characters

Pileus (young specimens not observed) 15 – 35 mm, low convex - appanate with smooth and distinctly depressed centre, elsewhere strongly plicate, margin not upturning, ochraceous-brownish with lilac shades at centre (more evidently coloured when young), whitish outside, grey inside the plicae; glabrous.

Lamellae free, somewhat distant, narrowly ventricose, pale grey, slowly deliquescing; lamellulae present.

Stipe 30 – 80 × 2 – 2.5 mm at base, equal or slightly tapering upwards to a 1.5 mm broad apex, base not enlarged; pale grey.



Microscopic characters

Basidiospores 11.0 – 14.2 × 10.2 – 12.0 × 8.2 – 9.2 μm, Q = 1.08 – 1.20 × 1.48 – 1.67; in front view subglobose-oval to sometimes subangular, apex papillate to tapering, in side view elliptic; dark brown; germ pore distinct, eccentric.

Basidia 20.0 – 32.5 × 9.5 – 13.5 μm, short to long clavate, 4-spored, surrounded by 6 – 7 hymenophysalides 12 – 20 (30) × 12 – 20 (25) μm.

Pleurocystidia not observed (lamellar tissue apparently well preserved).

Cheilocystidia not observable (gill edge already consumed by deliquescence).

Pileipellis hymeniform, of elongate clavate cells 22.0 – 58.0 × 11.0 – 18.0 (19.5) μm; clavate cells at centre with a thick-walled, straight peduncle with intraparietal ochraceous-brownish pigment (in 5% KOH), outside of centre with a thin-walled, bent to tortuous at base, hyaline peduncle. Subpellis of repent hyphae with intraparietal ochraceous-brownish pigment (in 5% KOH) at centre, hyaline outside of centre.

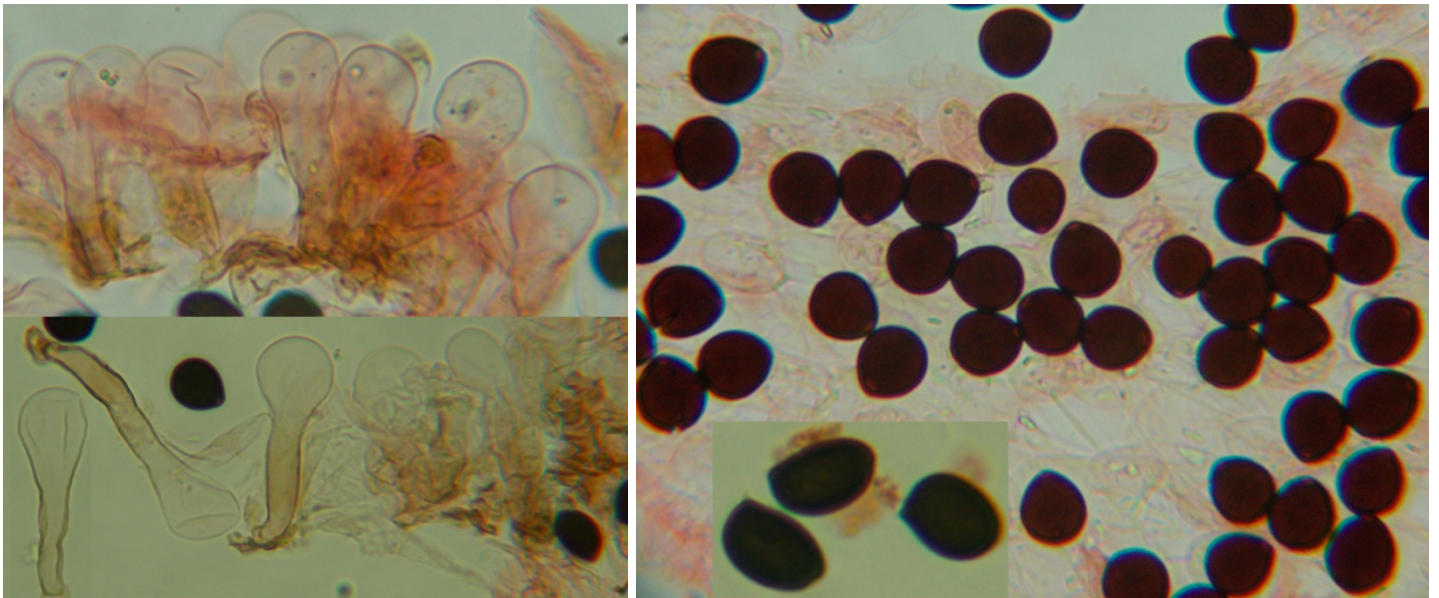
Caulocystidia absent.

Clamp connections present.

Habitat and collection examined: Dominican Republic, Puerto Plata, Cabarete, Sea Horse Ranch resort, gregarious among grass in a meadow with grazing horses; 14.I.2023, C. Angelini ANGE1830, PAD H0061571; GenBank PP349938 - ITS.

NOTES

Among the non-pileocystidiate species of the genus *Parasola*, the large, lentiform, angular spores with a papillate to tapering apex and an eccentric germ pore characterize *P. lilatincta*. Lilaceous tints on the pileus are also characteristic of this species but tend to fade away with age. Pleurocystidia may be occasionally absent, as in this collection (Voto 2024). A yellowish grey pigmented content is usually found in pileipellis, cheilocystidia and basidia (Uljé 2005). The Australian *P. grgurinoviciae* Voto, without pleurocystidia, and the European *P. megasperma* (P.D. Orton) Redhead, Vilgalys & Hopple, with pleurocystidia, have larger spores than *P. lilatincta* (12.5 – 17.6 × 13.0 – 15.0 × 7.0 – 11.0 μm and 12.0 – 20.0 × 8.8 – 15.0 × 7.5 – 10.0 μm, respectively).



Left: pileipellis in Congo red (above), in Congo red and 5% KOH (below); right: spores in Congo red

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