

Psathyrella atomatoides in France

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Key words:

Basidiomycota
Psathyrellaceae

Abstract: A collection of *Psathyrella atomatoides* from France is documented with macro and micro descriptions and images. Comments on its most prominent characters and comparisons with closest taxa are made.

INTRODUCTION

Psathyrella atomatoides is an old American taxon whose presence in Europe was first recognized by Örstadius (2007) although the species was already known in Europe under other names: *Psathyra solitaria* P. Karst. (1890), *Psathyrella rannochii* Kits van Wav. (1982), *Psathyrella artemisiae* var. *microspora* Kits van Wav. (1985), *Psathyrella caespitosa* Weholt nom. illeg. (1987). All these names were synonymized with *Psathyrella atomatoides* by Ludwig (2007) and Örstadius (2007) on the basis of morphological comparisons.

TAXONOMY OF THE STUDIED COLLECTION

***Psathyrella atomatoides* (Peck) A.H. Sm.**

Memoirs of the New York Botanical Garden **24**:425 (1972)

Basionym: *Agaricus atomatoides* Peck, Annual Report on the New York State Museum of Natural History **29**:41 (1875).



- = *Psathyrella artemisiae* var. *microspora* Kits van Wav., *Persoonia* Suppl. 2:282 (1985);
 = *Psathyrella caespitosa* Weholt [Illegitimate], *Beiträge zur Kenntnis der Pilze Mitteleuropas* 3:261 (1987);
 = *Psathyrella rannochii* Kits van Wav., *Persoonia* 11(4):501 (1982);
 = *Psathyra solitaria* P. Karst., *Meddelanden af Societas pro Fauna et Flora Fennica* 16:102 (1889);
 = *Psathyrella solitaria* (P. Karst.) Örstadius & Huhtinen [Illegitimate], *Österreichische Zeitschrift für Pilzkunde* 5:136 (1996).

Macroscopic characters

Pileus: 18 – 30 mm, hemisphaerical then conical-convex; darkish brown discoloring outside centre to greyish brown and at margin to ochraceous brown; striate at margin. Veil white, appendiculate at margin and covering all pileus with fibrillose-squamulose remains.

Lamellae: close, with two tiers of lamellulae, straight (not ventricose); edge hyaline.

Stipe: 45 – 55 × 4 – 6 mm, cylindraceous to tapering upwards, brownish under a white covering of fibrils and small flocci.

Context: without any peculiar smell; other characters not examined.

Microscopic characters

Spores: (6.0 – 8.0 × 3.3 – 4.6 µm, Q = 1.58 – 1.97, in front view elliptic to subcylindrical or narrowly oval, in side view adaxially flattened, sometimes subamygdaliform or subphaseoliform; orangish brown with or without a weak reddish shade in water and in ammonia; germ pore absent or a callus or very small and up to 0.5 (1.0) µm broad.

Basidia: 4-spored.

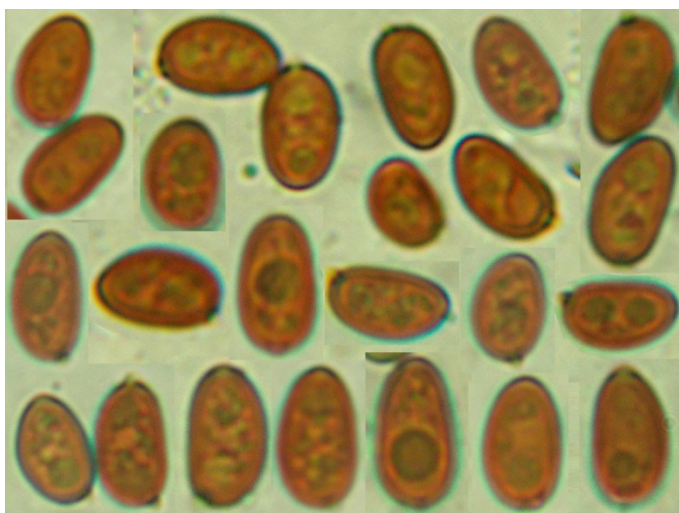
Pleurocystidia: 35.0 – 47.0 × (9.5) 11.0 – 15.0 (17.5) µm, mostly utriform, also lageniform or conical, sometimes with an abruptly tapered apex or subcapitate; in part with yellowish sub thickened wall below the apex in ammonia; moderately numerous.

Cheilocystidia: similar to pleurocystidia but more often lageniform to conical, hyaline, thin-walled; numerous but scattered towards the pileus margin; paracystidia up to 13 (30) µm broad, hyaline, thin-walled; numerous towards the pileus margin.

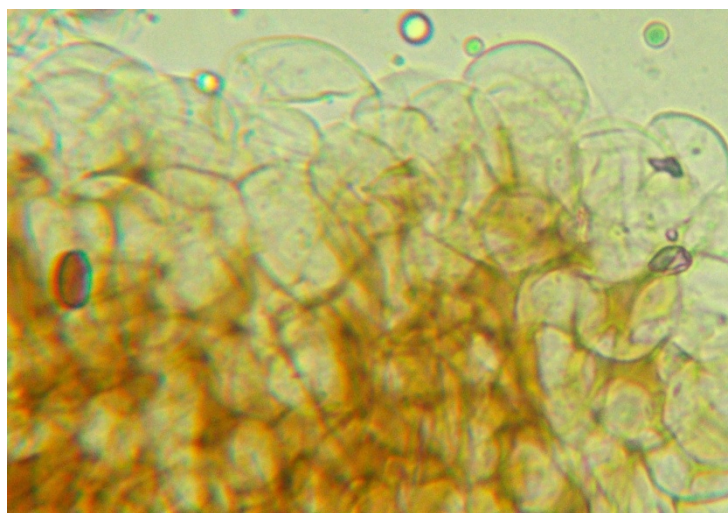
Pileipellis: cellular.

Clamp connections: present.

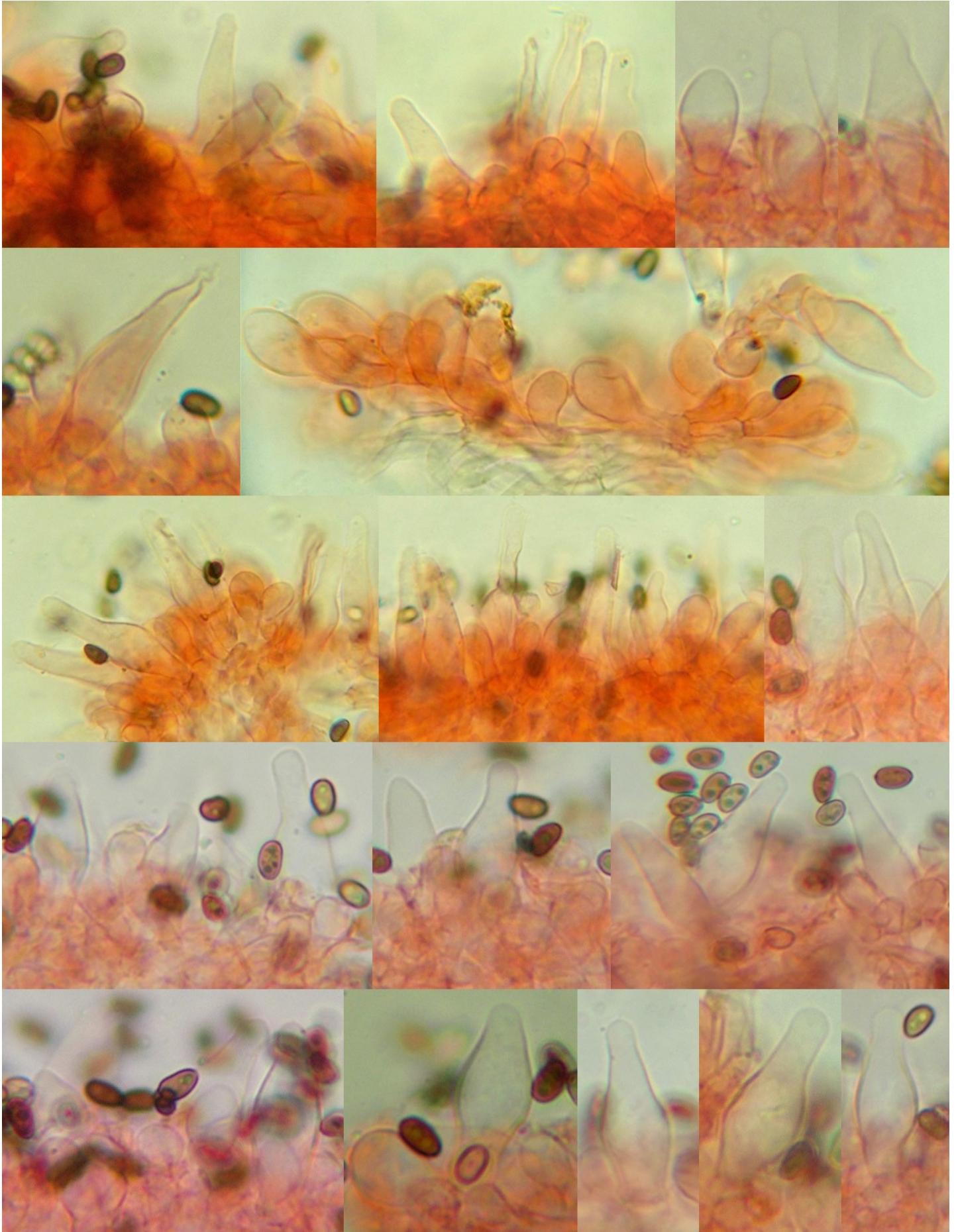
Habitat and collection studied: France, Nièvre, Prémery, forêt domaniale de Prémery, Nature Reserve of Mardelles, 47.201033° N 3.30457° E, 330 m. a.s.l., gregarious in a peat bog with *Salix* sp. and *Betula* sp., 3 October 2023, N. Van Vooren & A. Mombert, herb. PAD H0061560.



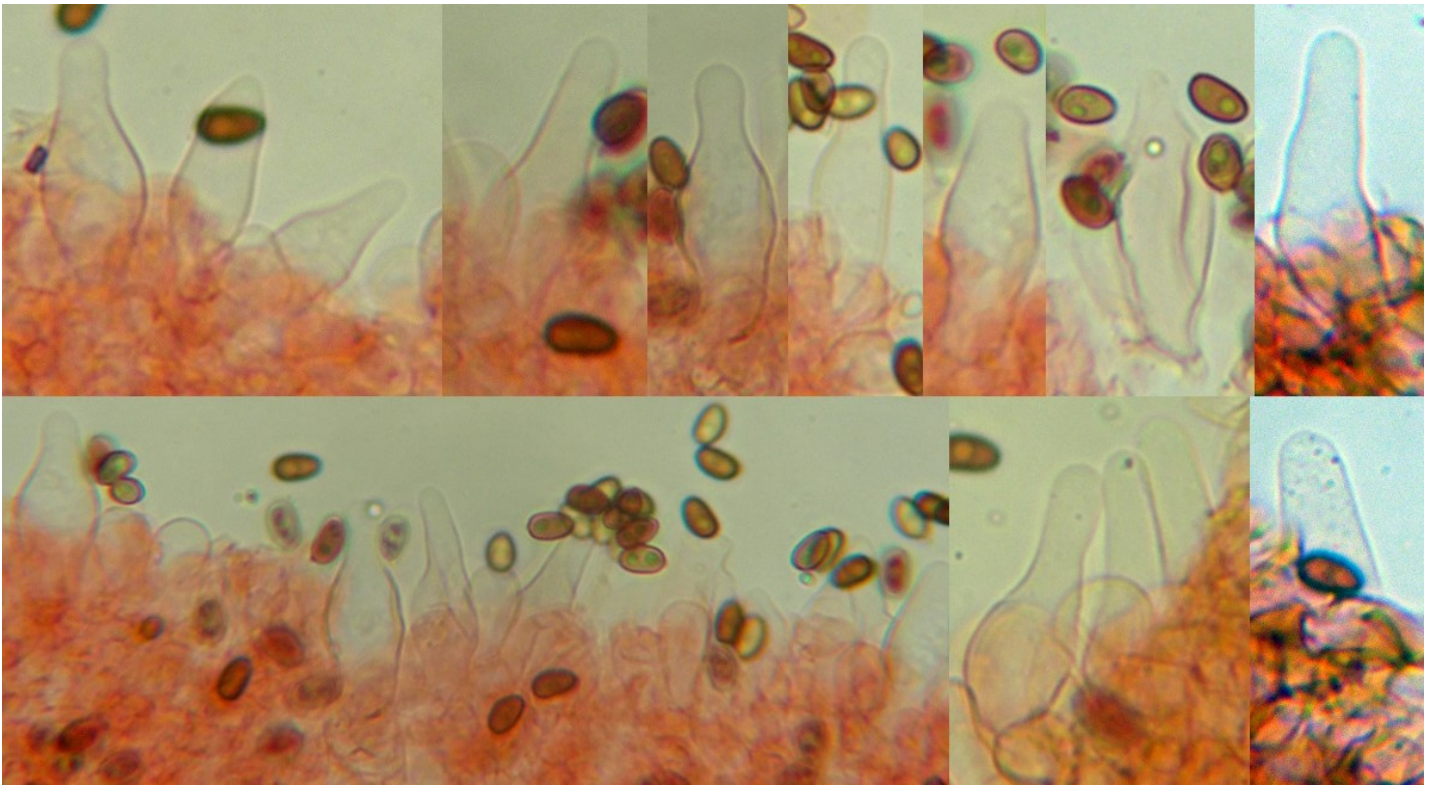
Spores in water



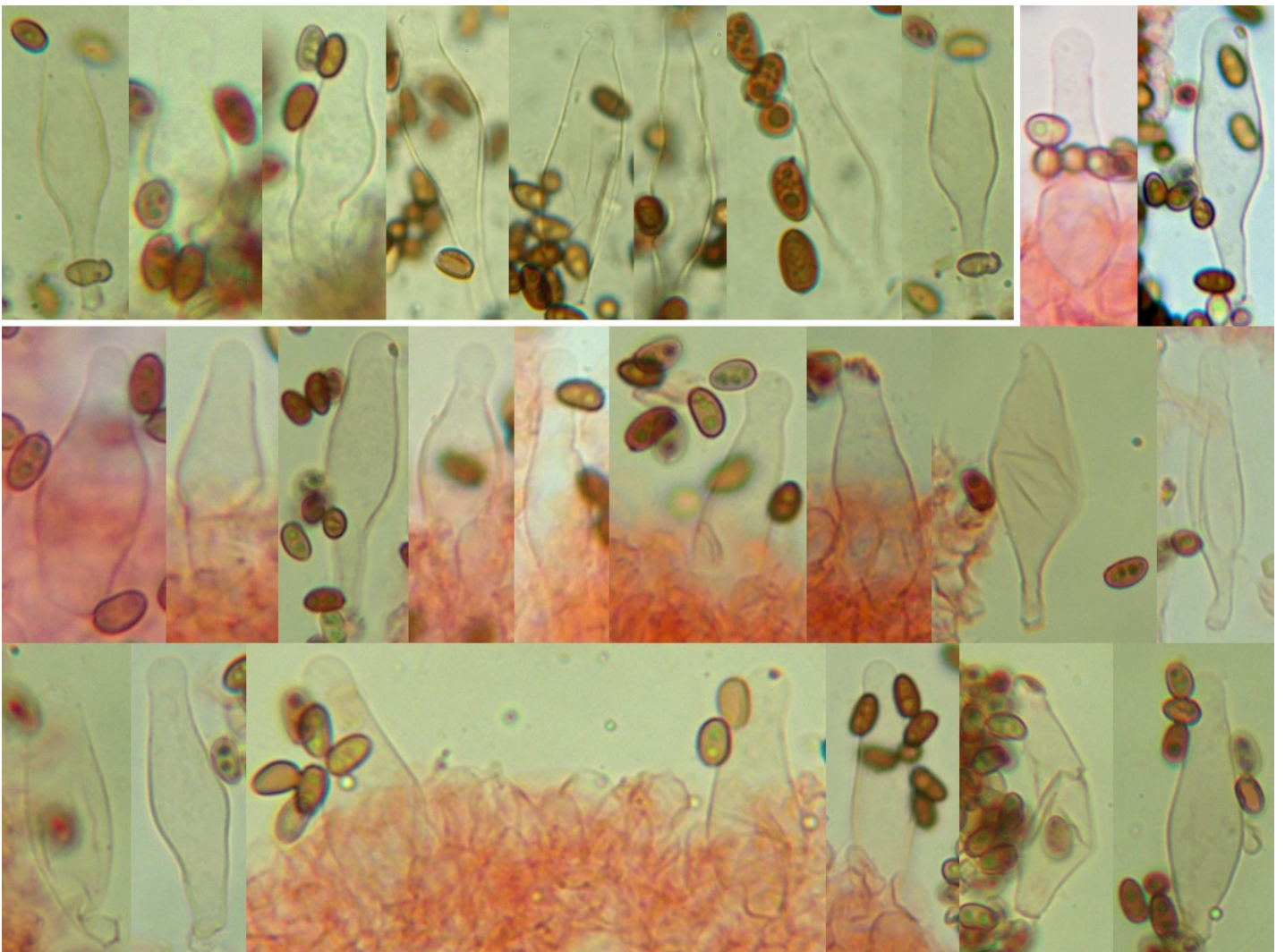
Pileipellis in water



Cheilocystidia in Congo red



Cheilocystidia in Congo red



Pleurocystidia in ammonia (top left box) and in Congo red (elsewhere)

NOTES

This beautiful hygrophilous *Psathyrella* is easily recognized by a distinct veil, medium dimensions, small and medium pigmented spores without or with an inconspicuous germ pore and somewhat pigmented pleurocystidia. The shape of pleurocystidia is peculiar as they can vary from having mainly a slender apex (conical, fusiform, lageniform), as in the descriptions by Kits van Waveren (1985: *P. rannochii* and *P. artemisiae* var. *microspora*), Örstadius (2015, 2023) and Voto *et al.* (2019: revision of the voucher K.A. Harrison 8023, MICH65721, misidentified by Smith as *P. obtusata*) to having a conspicuous amount of utriform elements, as in the descriptions by Weholt (1987: *P. caespitosa*), Örstadius & Huhtinen (1996: revision of *Psathyra solitaria*) and the present one. Smith's (1972) type revision offers no figure; however, he reports pleurocystidia as fusoid-ventricose with an acute to obtuse apex.

The most similar species is *P. rubiginosa* A.H. Sm. which mainly differs in having hyaline and more utriform pleurocystidia; it also has a slenderer stipe hardly reaching 3 mm broad.

P. scheppingensis Arnolds is also very similar in the micro features and habitat; it differs in having very small dimensions (pileus hardly up to 5 mm broad), a paler coloured pileus and a scarce veil present only near the margin.

P. senex (Peck) A.H. Sm. is not typically hygrophilous, has a scarcer veil limited to the pileus margin and somewhat larger spores.

We note that our description, together with that by Örstadius (2015, 2023), reports a spore size in the length range 6.0 – 8.0 µm which generally corresponds well to Peck's (1878) original description (.00028' – .0003 × .00016 = 7.11 – 7.62 × 4.06 µm), whilst Smith (1972, type revision) reports distinctly longer values: 7.8 – 9.3 × 3.7 – 4.5 µm.

ACKNOWLEDGMENTS

We are grateful to Andgelo Mombert for contributing in the field research.

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