

MARCELLEINA PARVISPORA (ASCOMYCOTA, PEZIZALES), A NEW MARCELLEINA SPECIES FROM CATALONIA (SPAIN)

E. RUBIO ¹, M. TABARÉS ² & A. MARTÍNEZ ²

1- C/ José Cueto, 3, 5º B. E-33400 Avilés (Asturias). E-mail enrurubio@mrbit.es

2- Societat Catalana de Micologia, carrer de la Marina, 94, 1º 4ª, E-08028 Barcelona. E-mail mtabac@hotmail.com

SUMMARY. *Marcelleina parvispora* (Ascomycota, Pezizales), a new *Marcelleina* species from Catalonia (Spain). *Marcelleina parvispora* sp. nov. (Pezizales, Ascomycota) is described as a new ascomycete species from Catalonia (NE of continental Spain). This first Spanish collection belongs to a new, apparently saprotrophic species that grows in *Eucalyptus* sp. plantations. A comparison is made with related European species of *Marcelleina*.

Key words. Fungi, taxonomy, *Eucalyptus*, Ascomycota, Pezizales, *Marcelleina*.

RESUMEN. *Marcelleina parvispora* sp. nov. (Pezizales, Ascomycota), una nueva especie de ascomicete, aparentemente saprobia en plantaciones de *Eucalyptus* sp., procedente de Cataluña (NE de España continental). La descripción se acompaña de fotografías macro y microscópicas de sus singulares caracteres y de su comparación con algunas especies europeas próximas.

Palabras clave: Hongos, taxonomía, *Eucalyptus*, Ascomycota, Pezizales, *Marcelleina*.

MATERIAL AND METHODS

Standard methodology for this type of study was followed: examination under binocular microscope (Nikon Eclipse E-400) and preparation of samples for microscopic study in water, cotton blue, KOH and Melzer's reagent. Macroscopic photographs were taken with a Canon EOS 500 D camera fitted with an EF60 mm macro lens. Microscopic photographs were taken with a Nikon D-70 camera fitted with a trinocular eyepiece, with exposure of 1/3 s at a magnification of 1000 and of 1/15 s for a magnification of 400, all at ISO 200. Samples were dried and covered with a 28-30 nm layer of gold, before being studied under a JEOL SSM6100 scanning electron microscope (SEM). Finally, the remaining material was dried, registered and stored in the herbarium of the Catalan Mycological Association (*Societat Catalana de Micologia*, SCM, BCN Universitat de Barcelona) and in the private herbarium of one of the authors (ERD).

Marcelleina parvispora E. Rubio, M. Tabarés et A. Martínez sp. nov.

Mikobank: MB519608.

Etymology: *parvispora*, latin, referring to its small size of spores.

Apothecia sessilia vel subsessilia, raro leviter stipitata, 5-14 mm in diam., leniter turbinata vel cupuliformis, deinde complanata. Hymenium laevis, albidum vel roseo-incarnatum (Séguy n° 204-205 'incarnat') usque roseo-violaceum (Séguy n° 16 'amarante rose'). Margo furfuraceo vel leviter tomentosus, concolor. Caro usque 1,5 mm crassa, idem atque hymenio colorata. Ascospores globosae, (7,5) -8-9 (10,7) µm in diam., laeves, guttulatae. Hymenium 180-

230 μm crassus. Asci cylindranei, 162-212 \times 9-11 μm , octosporati, operculati, tunica non amyloidea. Paraphyses filiformes, septatae, ramosae vel furcatae, luteolae, tortuosae vel moniliformis; apices 2,3-11,9 μm in diam. Excipulum subhymenialis 100-150 μm crasso, textura globulosa, e hyphis 15-55 μm diam. composito. Excipulum medullaris 300 μm crasso, textura intricata, ex hyphis cylindraneis et 15-55 μm diam. composito. Excipulum ectale textura globulosa, ex cellulis vesiculososis, 15-30 μm latis, 2-3 catenatae composito. Margo apotheciorum pilis elongati, usque ad 175 \times 10 μm , cum tunica hyalina, instructus.

Holotypus prope locus Llagostera (La Selva) dictam, in Catalonia (Hispania), a A. Martínez lectus, 28-II-2009, 100 m altitudinis, ad humus sub Eucalyptus sp. In herbario SCM A-1088 (BCN, Universitatis Barcinonensis) servatus; isotypus in herbario ERD-4.703.

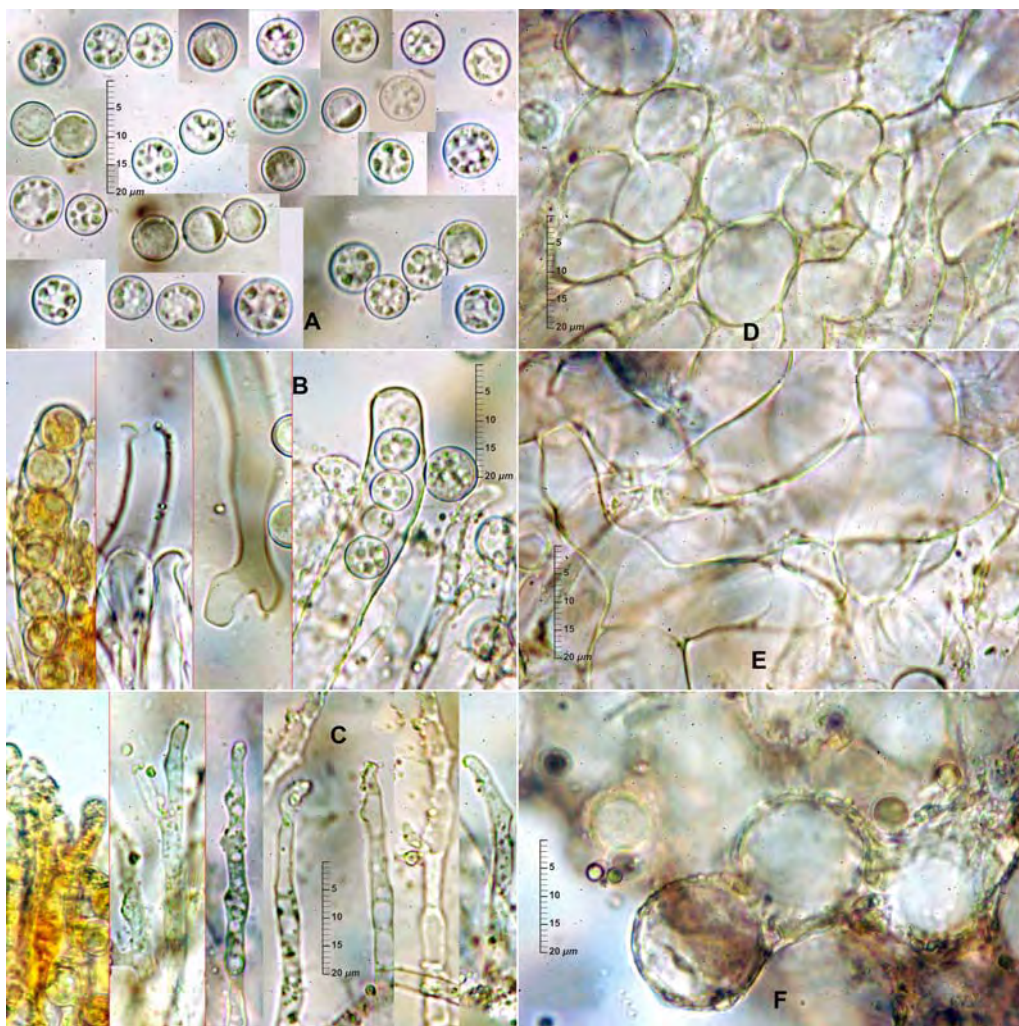


Fig. 1.- *Marcelleina parvispora* E. Rubio, M. Tabarés & A. Martínez; **A)** Ascospores; **B)** Asci; **C)** Paraphyses; **D)** Subhymenium; **E)** Medullary excipulum; **F)** Ectal excipulum.

Apothecia, 5-14 mm in diameter, sessile or subsessile, rarely substipitate, subturbinate when young, later cup-shaped, flattened or semi-flattened when old. Hymenium smooth and regular, whitish, salmon pink (Séguy no. 204-205: 'incarnat') or pinkish violaceous (Séguy no. 16: 'amarante rose'), rose beige and sordid when old. Margin regular, never depressed, furfuraceous, showing some hyaline hairs, poorly differentiated, striped with a more intense colour. Base shows a typical bundle of saffron-coloured hairs anchoring the apothecia. Flesh up to 1.5 mm thick, of the same colour as the hymenium.

Ascospores (7.5)-8-9 (10.7) μm , hyaline, smooth, perfectly spherical, with oleaginous multiguttulate content. Hymenium 180-230 μm wide. Asci 162-212 \times 9-11 μm , operculate, IKI (-), octosporic, with spores uniseriate, arising from croziers. Paraphyses slender, with yellowish pigment, multiseptate and very branched, with the tips 2.3-11.9 μm thick, straight or undulating, sometimes clearly recurved or uncinata and very heterogeneous: attenuated, inflated, tuberculate, sometimes with moniliform segments, bifurcate, sinuous and sometimes with lateral protuberances, little or scarcely protruding beyond the general level of the hymenium. Upper medullary excipulum 100-150 μm , with *textura globulosa*, of elements 15-55 μm wide. Lower medullary excipulum 300 μm , with *textura intricata* of cylindrical hyphae, 10-45 μm wide, constricted at the septa. Some vesiculose hyphae can also occasionally be observed in this layer. Ectal excipulum 150 μm , with a *textura globulosa* of vesiculose hyphae, 15-30 μm wide, which are arranged perpendicular to the surface and with their elements linked in bundles of 2-3 cells, making the surface pruinose. Near the apothecial margin one can see some scattered hyphoid hairs, hyaline, aseptate or 1-septate, up to 175 \times 10 μm , cylindrical, obtuse, with thin walls arising from the vesiculose hyphae of the ectal excipulum. The thickness of the different flesh layers has been measured on young apothecia and with the hymenium not definitively exposed.



Marcellina parvispora E. Rubio, M. Tabarés & A. Martínez (*Holotypus*).

Apotecios de 5-14 mm de diámetro, sésiles a subsésiles, subturbidados cuando son jóvenes, luego acopados y finalmente aplanados. Himenio liso y regular, de color blanquecino, sonrosado-asalmonado (Seguy n° 204-205: "incarnat"), sonrosado violáceo (Seguy n°16: amarante rose), beige sonrosado sórdido en la vejez. Margen regular, nunca hendido, furfuráceo, provisto de algunos ralos pelos hialinos poco diferenciados, ribeteado de un color algo mas intenso. Base provista de típicos mechones de color azafranado que sirven de anclaje al sustrato. Carne de hasta 1,5 mm de grosor, del mismo color que el himenio.

Ascosporas de (7,5) -8-9 (10,7), esféricas, lisas con contenido oleaginoso multigutular. Himenio de 180-230 µm de grosor. Ascosporas de 162-212 × 9-11 operculadas, no amiloides, provistos de uncínulos, octosporados, con las esporas uniseriadas. Paráfisis filiformes con pigmento amarillento, multiseptadas, ricamente ramificadas, con los ápices de 2,3-11,9 µm de anchura, provistas o no de segmentos monoliformes, bifurcadas, sinuosas, y en ocasiones, con protuberancias laterales, poco profundas, poco protrusivas sobre el nivel de los ascos. Excípulo medular superior de 100-150 µm con *textura globulosa*, compuesto por elementos de 15-55 µm de grosor. Excípulo medular inferior de 300 µm con *textura intricata*, compuesto por elementos cilíndricos de 10-45 µm de grosor, constreñidos en los septos. En este estrato puede también observarse ocasionalmente alguna hifa vesiculosa. Excípulo ectal de 150 µm con *textura globulosa* compuesta por hifas vesiculosas de 15-30 µm de ancho, que hacia el exterior forman fascículos encadenados de 2-3 células. En el margen de los ascomas se pueden observar algunos pelos hifoides hialinos de hasta 175 × 10 µm, generalmente no tabicados, raramente provistos de un único septo, cilíndricos obtusos, con paredes delgadas, que nacen de las hifas vesiculosas del excípulo ectal. Los espesores de las diferentes capas de la carne han sido tomados en los ascomas jóvenes con el himenio no definitivamente expuesto.

COLLECTION EXAMINED. Spain, Catalonia, Girona, Llagostera (UTM 31T 0492476-4630314), alt. 100 m, on acidic humus-rich soil above granite, in a plantation of *Eucalyptus sp. pl.*, probably saprotrophic, 28-II-2009, leg. A. Martínez, SCM A-1088 (*holotypus*), *isotypus* in ERD-4.703.

OBSERVATIONS. The species, proposed as new, differs in the smaller size of its spores from the group of species of the same genus having smooth and spherical ascospores. The closest taxa seem to be: *M. atroviolacea* (Delile ex De Seynes) Brumm., with dark purple fruit body and ascospores of 9-11 µm (MORAVEC, 1987), *M. benkertii* Moravec, flat shaped or briefly cupulate, with ascospores of 9-10-11.5-(12) µm (MORAVEC, *op. cit.*), and the exotic *M. chopraiana* (L.R. Batra) S.C. Causal, with ascospores of (11)-14-17 µm (*vide* BATRA, 1961).

ACKNOWLEDGEMENTS

We wish to thank A.J. Quintana Garcia, head of the *Servicio de Microscopia Electrónica de Barrido y Microanálisis EDS* of the *Servicios Comunes de Investigación* of Oviedo University, for his patient collaboration in the ultramicroscopic study of our material, J. Llistosella for the latin diagnosis, and S. Tabarés and I. Suarez for the English translation of the text.

REFERENCES

- BATRA, L.R. (1960). New species of discomycetes from India, II. *Mycologia* 52: 665-667.
MORAVEC, J. (1987). A taxonomic revision of the genus *Marcelleina*. *Mycotaxon* 30: 473-499.
LANTIERI, A. & FISTER, D.H. (2010). *Marcelleina mediterranea*. A new species of *Marcelleina* from Italy. *Mycotaxon* vol. 111, pp. 465-469.

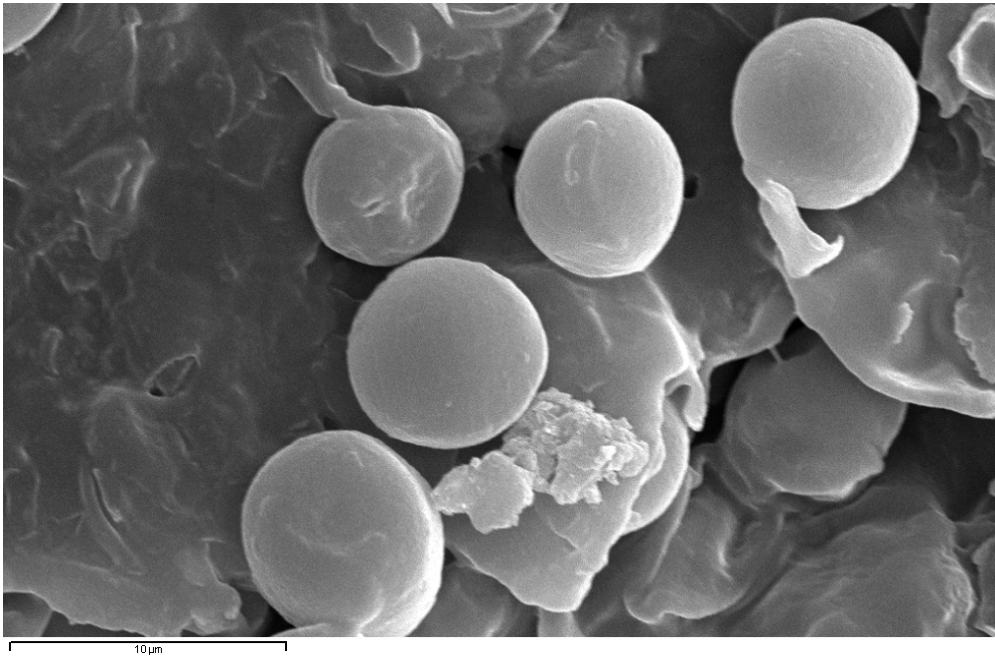


Fig. 2.- *Marcelleina parvispora* E. Rubio, M. Tabarés & A. Martínez; micrograph SEM of spores.