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Biporispora europaea gen. et sp. nov., a new pyrenomycete from France

by

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With 8 figures

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Abstract: *Biporispora europaea*, a stromatic pyrenomycete featuring unicellular ascospores with a germ pore at each end and nonamyloid asci, is described as new. Its taxonomic affinities are unclear, but it is compared to *Camarops* (Boliniaceae) and the Clypeosphaeriaceae.

Key Words: *Biporispora*, Clypeosphaeriaceae, Pyrenomycetes.

Introduction

One of us (FC) has made a number of collections of a lignicolous stromatic pyrenomycete in France (Ariège and Pyrénées Atlantiques) over the last two years. Attempts to identify it have been unsuccessful. We therefore describe it here as new.

Taxonomy

Biporispora J.D. Rogers, Y.-M. Ju, et Candoussau, gen. nov.

Etymology: ascospore with two germ pores

Type species: *Biporispora europaea* J.D. Rogers, Y.-M. Ju, et Candoussau

Stromata applanata vel pulvinata, peritheciis fere liberis vel connatis, mollia. Perithecia in stromate inclusa. Asci cylindrici, stipitati, annulo apicali in liquore iodato Melzeri haud caerulescente, minuto. Ascosporae brunneolae vel brunneae, unicellulares, fusiformes vel ellipsoideo-inequilaterales, leves, utrinque poro germinativo conspicuo praeditae. Paraphyses angustatae, abundantes.

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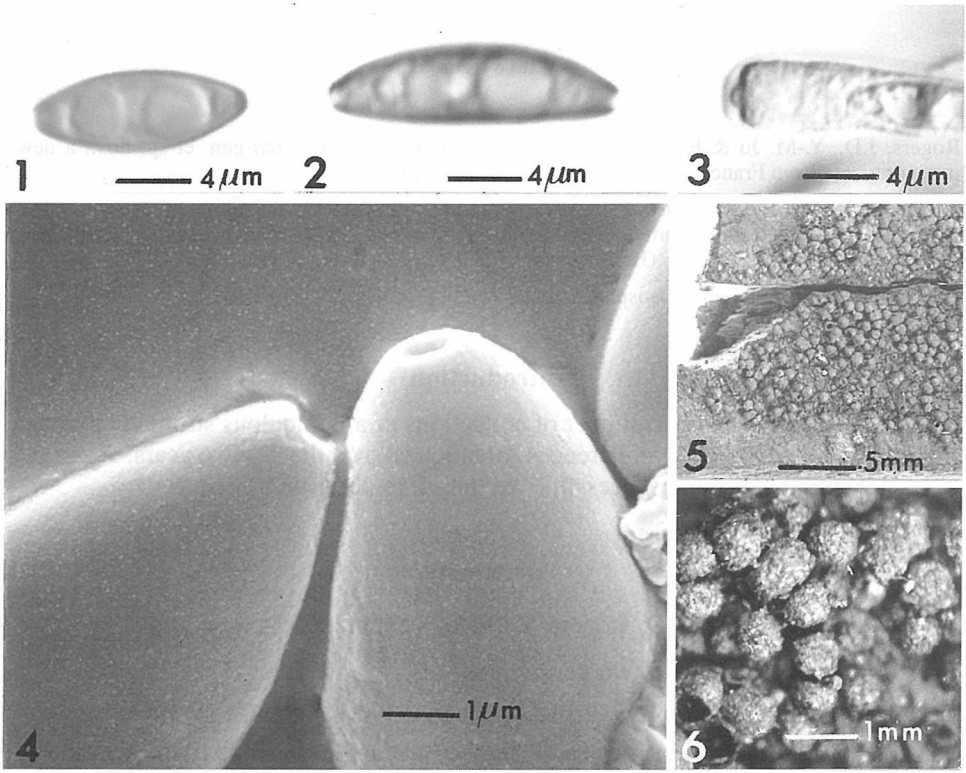
Stromata applanate to pulvinate, with perithecia nearly free to aggregated, soft. Perithecia embedded in stroma. Asci cylindrical, stipitate, with apical ring not bluing in Melzer's iodine reagent, minute. Ascospores light brown to brown, one-celled, fusiform to ellipsoid-inequilateral, with conspicuous germ pore at each end. Paraphyses narrow, abundant.

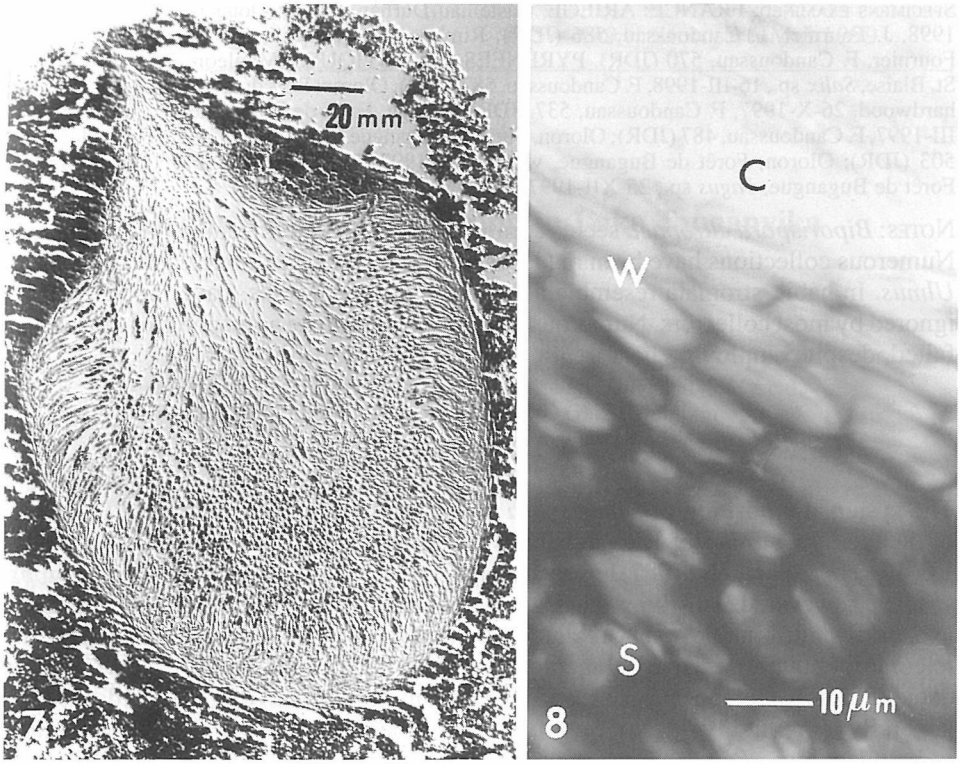
Biporispora europaea J.D. Rogers, Y.-M. Ju, et Candoussau, sp. nov. Figs. 1-8

Etymology: described from Europe

Stromata applanata vel pulvinata, peritheciis fere liberis vel connatis composita, restricta vel expansa, ca. 1 mm crassa, mollia, plerumque tumulis peritheciorum conspicuis singulatim verrucatis et striatis, externe brunneo-vinosa, aurantiaca, ferruginea, vel vetustate denigrata; sub superficie granulis aurantiacis conspersa, granulis aurantiacis vel olivaceo-aurantiacis in KOH dissolutis; textura sub peritheciis atra, ca. 0.25 mm crassa. Perithecia globosa vel obovoidea, 0.2–0.5(–0.7) mm diam. Ostiola umbilicata. Asci cylindrici, 103–140 mm longitudine tota × 6 mm crassi, partibus sporiferis 66-88 mm longitudine, annulo apicali in liquore iodato Melzeri haud caerulescente, minuto, saepe ascosporis minus quam octo praediti. Ascosporae brunneolae vel brunneae, unicellulares, fusiformes vel ellipsoideo-inequilaterales plerumque apicibus angustatis, leves, (9–)12–15(–17.5) × 4.5–5 (–6) µm, utrinque poro germinativo conspicuo praeditae. Paraphyses angustae, abundantes.



Figs. 1-6. *Biporispora europaea*. Figs. 1 and 2. Ascospores. Fig. 3. Ascus apex. Fig. 4. Apices of two ascospores showing germ pores. Figs. 5 and 6. Perithecial stromata. Figs. 1-3 from water mounts by differential interference microscopy. Fig. 4 by scanning electron microscopy. Figs. 5 and 6 by macrophotography. From holotype.



Figs. 7 and 8. *Biporispora europaea*. Fig. 7. Section of perithecium, the friable stroma crumbling at periphery. Fig. 8. Detail of perithecial wall (W) and stroma (S). Centrum (C). Fig. 7 from unstained section of plastic-embedded stroma. Differential interference microscopy. Fig. 8 from section of paraffin-embedded material stained with toluidine blue. Transmitted light microscopy. From holotype.

Stromata applanate to pulvinate, composed of nearly free to aggregated perithecia, restricted to spreading, ca. 1 mm thick, soft, usually with prominent perithecial elevations, with individual perithecial stromata with warts and striations; surface vinaceous brown, bright orange, rusty orange, or blackish in age; orange granules beneath surface, with KOH-extractable pigments orange or with olivaceous tones; tissue beneath perithecial layer black, ca. 0.25 mm thick. Perithecia spherical to obovoid, 0.2–0.5(–0.7) mm diam. Ostioles umbilicate, usually slightly raised. Asci cylindrical, 103–140 µm total length × 6 µm broad, the spore-bearing part 66–88 µm long, with minute apical ring not staining in Melzer's iodine reagent, often with fewer than 8 ascospores per ascus. Ascospores light brown to brown, unicellular, fusoid to ellipsoid-inequilateral, usually with acute apices, (9–)12–15(–17.5) × 4.5–5(–6) µm, with conspicuous germ pore in each end. Paraphyses narrow, abundant.

HOLOTYPE: PYRÉNÉES ATLANTIQUES, Oloron, Forêt de Bugangue, *Fraxinus* sp., 4-II-1997, F. Candoussau, 493 (WSP 69701).

SPECIMENS EXAMINED: FRANCE: ARIÈGE, Castelnau-Durban, Ravine Douach, *Ulmus* sp., 19-II-1998, J. Fournier, F. Candoussau, 586 (JDR); Rimont, "Las Muros", *Ulmus* sp., 21-I-1998, J. Fournier, F. Candoussau, 570 (JDR). PYRÉNÉES ATLANTIQUES, Mauleon, Bois de l'Hôpital St. Blaise, *Salix* sp., 16-III-1998, F. Candoussau, 582 (JDR); Oloron, Bois du Bager, Sud, "L'Ourtau", hardwood, 26-X-1997, F. Candoussau, 537 (JDR); Oloron, Forêt de Bugangue, *Fraxinus* sp., 23-III-1997, F. Candoussau, 487 (JDR); Oloron, Forêt de Bugangue, wood, 15-VI-1997, F. Candoussau, 503 (JDR); Oloron, Forêt de Bugangue, wood, 5-X-1997, F. Candoussau, 527 (JDR); Oloron, Forêt de Bugangue, *Fagus* sp., 25-XII-1997, F. Candoussau, 566 (JDR).

NOTES: *Biporispora europaea* seems common in the Atlantic Pyrénées part of France. Numerous collections have been made, especially on *Fraxinus*, but also on *Salix* and *Ulmus*. In habit, stromata resemble a red *Hypoxylon* and, thus, have probably been ignored by most collectors. Numerous attempts to germinate ascospores of the fungus failed, despite employing heat treatments and various media.

Discussion

The systematic position of *Biporispora* is unclear. It resembles *Camarops* P. Karst. of the family Boliniaceae Rick in having poroid ascospores and, indeed, *C. biporosa* J.D. Rogers & Samuels (1987) has ascospores with a germ pore at each end. *Camarops* species, however, usually have much smaller ascospores that are more or less flattened and easily germinable, and smaller asci. Cultures of some species produce the teleomorph, but none yield an anamorph. *Biporispora* could possibly be accommodated in family Clypeosphaeriaceae Winter as interpreted by Barr (1990), despite its generally more highly developed stromata. For the present, we consider its position to be uncertain.

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