

PULCHERRICIUM CAERULEUM (FR.) PARM.
(CORTICIACEAE, BASIDIOMYCETES),
A NEW RECORD FROM TAIWAN

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Abstract: A monotypic species, *Pulcherricium caeruleum* (Fr.) Parm. is first reported from Taiwan. The term "basidiole" is proposed to replace the "dendrohyphidium", the diagnostic character of this species.

Pulcherricium caeruleum (Fr.) Parm., Consp. Syst. Cort. p. 133. 1968.
 ≡ *Thelephora caeruleum* Fr., Elench. Fung. 1: 202. 1828.

Fruitbody resupinate, effused and margins recurved, adnate when young but somewhat separative when old, ca. 100-250 μm thick in section, membranous. Hymenial surface Light Olive-Gray, Pale Green-Blue Gray, Clear Green-Blue Gray, Deep Green-Blue Gray to Dark Green-Blue Gray (color names are from Ridgway, 1912), immature specimen lacking shelter of non-tinted hymenium, thus exposing the Plum Purple subhymenium and upper subiculum, even or slightly tuberculate, usually cracked when mature, and even cleaved into pieces when old; margin separative and recurved when mature, usually concolorous or paler.

Subhymenium and upper context region tinted with a blue-purple secretion produced by itself. Hyphal system monomitic; hyphae distinct, septae clamped, 2-5 μm wide, with thin to slightly thickened walls of up to ca. 1 μm thick, hyaline or subhyaline. Subiculum *textura intricata*, without distinct basal layer Basidioles 15-40 \times 3-7 μm , have tortuous tendency and sometimes splitting on the top, thus similar to branched hyphidia (or dendrohyphidia); occasionally the branch is separated by a septa or discolored to blue. Basidia clavate, with a tapering base, 30-40 \times 5.5-9 μm . Basidiospores subglobose or broadly ellipsoid, thin-walled, hyaline or rarely tinted bluish, 7.5-10.5 \times 5.5-7.5 μm (av. 9.2 \times 6.5 μm), non-amyloid, acyanophilous.

ROTTEN TYPE

White rot.

SPECIMENS EXAMINED

TAOYUAN: Fu Hsing Shiang, Shahng Ba Lirn, alt. ca. 1500 m, on fallen branch of frondose tree, Aug. 3, 1988, *Wu* 880803-1 (collected by Lan-Tung Lin). MIAOLI: Tai Ahn Shiang, entrance of Dah Bah Jian Shan, alt. ca. 1650 m, on fallen branch of frondose tree, Aug. 25, 1988, *Wu* 880825-40.

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DISTRIBUTION

Europe, North America, Australia, Tunisia, Kenya, Java, Japan, Himalayas, Iran, and Taiwan.

REMARKS

A diagnostic character of *Pulcherricium caeruleum* is what we call "basidiole", which exhibits tortuous tendency and splitting on its top. Concerning with this structure, Rattan (1977) employed the term "basidioles (dendrohyphidia or cystidioles)", obviously he gave a provisional term for this structure. Jülich (1974) termed them "dendrophyses", followed Eriksson *et al.* (1981) termed them "dendrohyphidia", both terms have a similar conception.

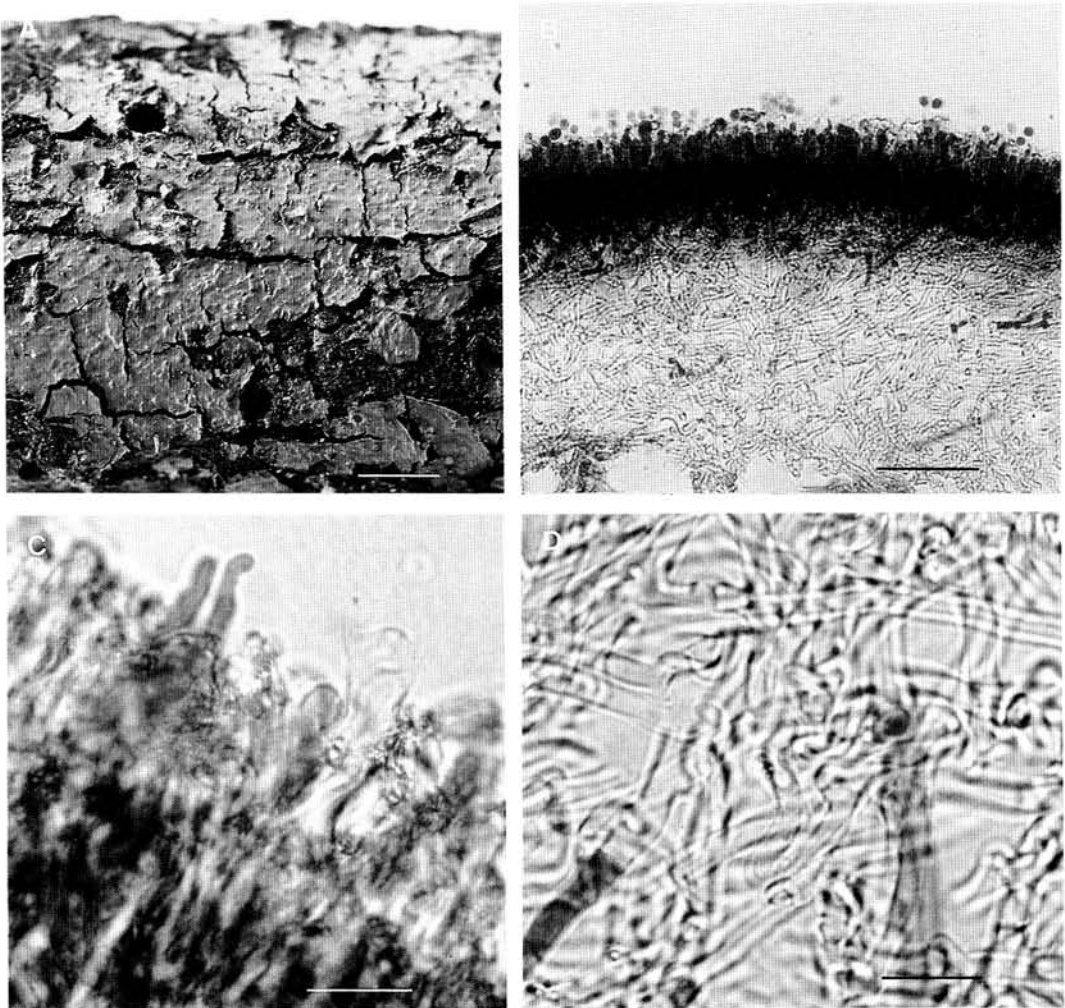


Fig. 1. *Pulcherricium caeruleum* (Wu 880803-1). (A) fruitbody, bar=1 cm; (B) section through fruitbody (showing pigmented subhymenium layer), bar=50 μ m; (C) basidium and basidioles of hymenium, bar=10 μ m; (D) subicular hyphae, bar=10 μ m.

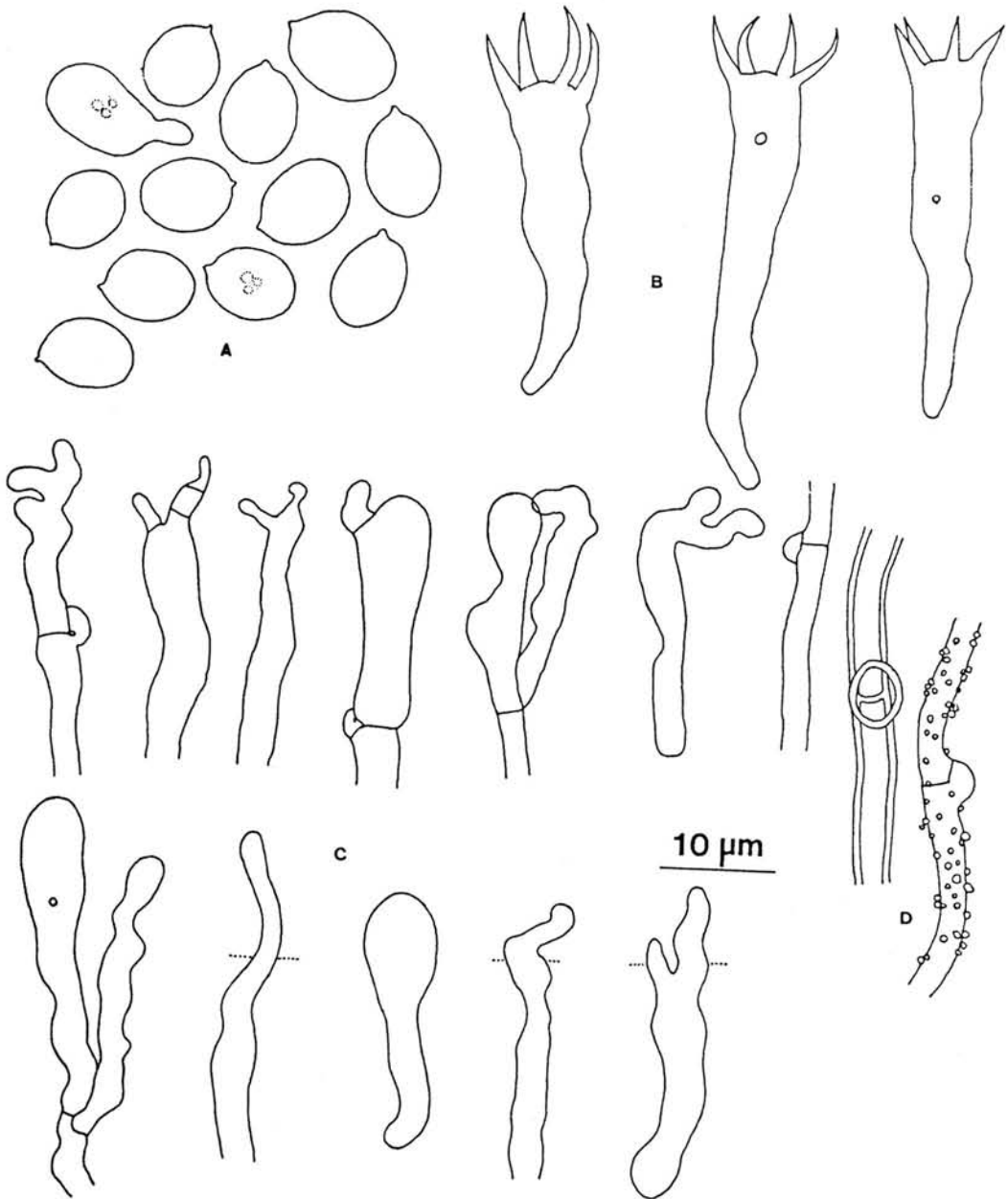


Fig. 2. *Pulcherricium caeruleum* (Wu 880803-1). (A) basidiospores, (B) basidia, (C) representative shape of basidioles, (D) subicular hyphae.

Our reason of using the term "basidiole" is based on variation of its shape. This structure deviates from a normal basidiole to form a dendro-like shape (see fig. 2: C). This variation is continuous and can not be separated into different categories. In general, when both dendrohyphidia and basidioles are presented in hymenium, they are distinguishable. Again, from cytological evidence, Jülich

(1974) stained the "dendrophyses" of *P. caeruleum* and found "...in the larger ones a synkaryon was formed. ..., indicates that in dendrophyses, too, a meiotic division of the synkaryon and spore production may occur". Also, Jülich (1974) and Eriksson *et al.* (1981) indicated that basidia of *P. caeruleum* sometimes with lateral dendrohyphidial branches. This, again, implies that what they called "dendrophyses" or "denderohyphidia" are homologous to basidia. Traditionally we recognised that "basidioles appear to be either cells resembling basidia or basidia that have not yet produced spores" (Alexopoulos and Mims, 1979). On the other hand, dendrophyses as Jülich (1974) stated, "are considered to be sterile element..."

"Dendrophyses" or "dendrohyphidia" from *P. caeruleum* in Jülich's and Eriksson's sense is actually fertile element of hymenium and should be regarded as homologous structure of probasidium. For this reason, in this species, we prefer to treat the fertile dendrophysoid structure the "dendro-basidiole", one of the modified basidiole.

The Formosan collections did not show the basidia with lateral dendrohyphidial branches, nor the ramified, long appendages of basidioles. Nevertheless, Jülich (1974) had pointed out that such characteristics are very variable in appearance.

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LITERATURE CITED

- ALEXOPOULOS, C. J., and C. W. MIMS, 1979. *Introductory Mycology*, 3rd ed., John Wiley & Sons, New York. 632 pp.
- ERIKSSON, J., K. HJORTSTAM, and L. RYVARDEN, 1981. *The Corticiaceae of North Europe*. Oslo, 4: 1051-1276.
- JÜLICH, W., 1974. The genera of the Hyphodermoideae (Corticiaceae). *Persoonia* 8: 59-97.
- RATTAN, S. S., 1977. The Resupinate Aphylophorales of the North Western Himalayas. *Bibliotheca Mycologica* 60: 1-427.
- RIDGWAY, 1912. *Color Standards and Color Nomenclature*. Washington D. C. Published by the author. 43 pp. & 53 pl.

臺灣新記錄種，藍色麗殼菌 (皮殼菌科，擔子菌綱)

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摘 要

藍色麗殼菌首次在臺灣被發現。除記述其特徵及分佈，並討論其特殊幼擔子之術語用法。