Almbornia, a new lichen genus from South Africa

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The new lichen genus Almbornia, characterized by a densely agglutinated, prosoplectenchymatous medulla, is described from South Africa. It is tentatively assigned to the Parmeliaceae, allied perhaps to Neofuscelia.

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Introduction

During research on a monograph of the brown species of Parmelia, I had the good fortune to study several series of specimens from southern Africa. Among these were several specimens of a subfruticose lichen that could not be satisfactorily accommodated in Parmelia sensu lato. Superficially, this new genus bears some resemblance to certain brown Parmelia species that are now placed in Neofuscelia, for instance N. lichinoidea (Nyl. ex Crombie) Essl. (Esslinger 1977, 1978). A first clue to its unique nature was the rather cartilaginous texture of the thallus. Upon sectioning, it was found that the medulla, instead of being soft and loosely interwoven in as in most Parmeliaceae, was dense and chondroid, consisting of agglutinated hyphae which are arranged parallel to the long axis of the thallus segments. This unusual anatomy is unknown in the Parmeliaceae or elsewhere, perhaps the closest thing being the central chondroid strand of the genus Usnea.

This new genus is named in honor of Swedish lichenologist Ove Almborn, foremost student of South African lichens.

ALMBORNIA CAFFERENSIS Essl., gen. et spec. nov. (Figs 1, 2)

Thallus subfruticosus, plus minusve appressus, usque ad 5 cm latus; lobis lineari-elongatis, 0.04–0.4 mm latis, sorediis isidiis rhizinisque destitutis; medulla compactus, prosoplectenchymatus.

Thallus subfruticos, weakly appressed-prostrate to somewhat pulvinate, very loosely adnate, up to 5 cm in diameter. Lobes linear-elongate to weakly torulose, dichotomously to somewhat irregularly branched and entangled, terminal segments as little as 0.04 mm broad, the older, main segments rarely reaching 0.4 mm broad, mostly flat to weakly convex or (especially in the terminal portions) nearly terete. Upper surface dark brown to black or gray-black; mostly smooth and regular, dull to slightly shiny; without soredia or isidia. Lower surface mostly tan to pale brown, sometimes darker and

Fig. 1. A portion of the holotype of Almbornia cafferensis.
nearly concolorous with the upper surface near the lobe-ends; more or less flat to convex, smooth to slightly irregular; erhizinate but the thallus weakly attached by scattered terminal loboid holdfasts. Cortices paraplecostrenchyomatous, 10–20 μm thick, the medulla prosplecostrenchymatous except in the algal layer which is ca. 30–50 μm thick. Apothecia and pycnidia unknown.

Chemistry: Norstictic acid with trace amounts of stictic and connorstictic acids. Cortex K–, HNO3+, of + faint blue-green; medulla PD+ yellow-orange, K+ yellow turning orange-red, C–.

Type: South Africa. Cape Prov.: Worcester Division, plateau between Sonklip and Matroosberg, on pebbly sandy flat rock surface, 6000 ft., Esterhuysen 27733 (US, holotype).

Almbornia is anatomically unique. The medulla, apparently adapted as mechanical tissue, is composed of parallel hyphae which are embedded in a dense intercellular matrix (Fig. 3). This prosplecostrenchymatous tissue is the major defining character of the genus. Just below the upper cortex, a loose part of the medulla corresponds with the algal layer. This is relatively thin compared to the compacted medulla. In some parts of the thallus, particularly in the narrow and nearly terete terminal segments, the looser algal layer extends partway or almost all the way around the lobe just below the cortex. Most of the thallus is distinctly dorsiventral, however.

The relationships of this new genus are uncertain.
Unfortunately all known specimens are sterile, thus making positive family placement difficult. The general appearance, however, along with the nature of the cortex point strongly to the Parmeliaceae. The chemistry, although far too ordinary to be definitive, would be normal for that family. *Almbornia* bears a definite superficial resemblance to certain subfruticose members of the genus *Neofuscelia* (Esslinger 1978), and the faint positive reaction of the upper cortex with HNO₃ might support such a relationship. Also, South Africa appears to be the center of distribution for *Neofuscelia* and the rate of endemism for the genus is high in that area (Esslinger 1977).

Although firm generalizations regarding the ecology and distribution of *Almbornia* cannot be made with the limited number of specimens seen, all three of the collections seen are from within the Cape Floristic Region (Good 1964). This new genus would therefore seem to be yet another example of a South African endemic. All three of the collections were made from sandy rock surfaces at or above 2000 m in the mountains.


**References**


