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# *HEMIBELTRANIA URBANODENDRII* SP. NOV. AND *PSEUDOBELTRANIA ANGAMOSENSIS*: NEW FUNGAL RECORDS FROM THE BRAZILIAN TROPICAL SEASONAL SEMI-DECIDUOUS MONTANE FOREST

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**SHORT COMMUNICATION**

## ABSTRACT

The new species *Hemibeltrania urbanodendrii*, associated to leaf-spots on *Urbanodendron verrucosum* (Lauracea) and *Pseudobeltrania angamosensis*, associated with leaf-spots on *Virola gardneri* (Myristicaceae), are recorded for the first time in Brazil. They represent additions to the mycobiota of the Tropical Seasonal Semi-Deciduous Montane Forest in Viçosa (Minas Gerais, Brazil), a highly threatened ecosystem.

**Key words:** *Beltrania*-like fungi; *Urbanodendron verrucosum*; *Virola gardneri*, biodiversity, fungal diversity, mycobiota

Although several publications deal with the flora of the Brazilian tropical seasonal semi-deciduous montane forests in the state of Minas Gerais (5-8), very little is known about the fungi occurring in this highly endangered ecosystem. In December 2003, an effort to list and describe the fungi occurring on a preserved fragment of forest (Mata do Seu Nico) located in the municipality of Viçosa was started. This has yielded an increasing list of mycological novelties either for Brazil or worldwide, some of which have already been published(9,10). In this paper two newly recorded *Beltrania*-like fungi associated to leaf-spots on native plants occurring in this site are described.

Leaves bearing leaf-spot symptoms were collected and taken to the lab for further exams. Fresh material was examined under a dissecting microscope and microscope slides were prepared in lactophenol from sporulating lesions. Examinations and illustrations were made with a light microscope (Olympus BX-50) fitted with a drawing tube. Leaves bearing fungal structures were dried in a plant press and deposited in the local herbarium (Herbarium VIC). The fungi were identified at the generic level with the help of published keys for dematiaceous hyphomycetes (2).

One fungus was collected in association with *Urbanodendron verrucosum* (Nees) Mez (Lauracea) and easily identified as a member of *Hemibeltrania* but had features clearly separating it from the known species in the genus. A new name is proposed for this taxon which is described below:

***Hemibeltrania urbanodendrii* sp. nov.** (Fig. 1).

Etymology: from the host genus *Urbanodendron.*

Maculae minutae, atro-brunneae, irregularis, nervus centralis sequens, 0.2-0.7 x 0.2-0.3 mm diam; mycelium internum exiguum; mycelium externum nullum; conidiophora solitaria, cylindracea, recta, simplicia, basi lobata, 55-106 x 4-6 µm, 1-3 septata, levia, brunnea; cellulae conidiogenae polyblasticae, terminalis, deinde intercalares, sympodiales, 10-35 x 4-6 µm, subhyalinae; conidia solitária, biconica vel subrombica, 12-25 x 6-10 µm, leviter brunnea, fasciata, continua, levia.

*Lesions* on living leaves, initially small, elongate, necrosed areas, grayish with dark margin, becoming irregular to sublosangular, 0.2-0.7 x 0.2-03 mm, sometimes coalescing and extending along the whole length of the midrib. *Internal mycelium* branched, septate, pale brown. *External mycelium* absent. *Conidiophores* isolate, cylindrical, straight to somewhat

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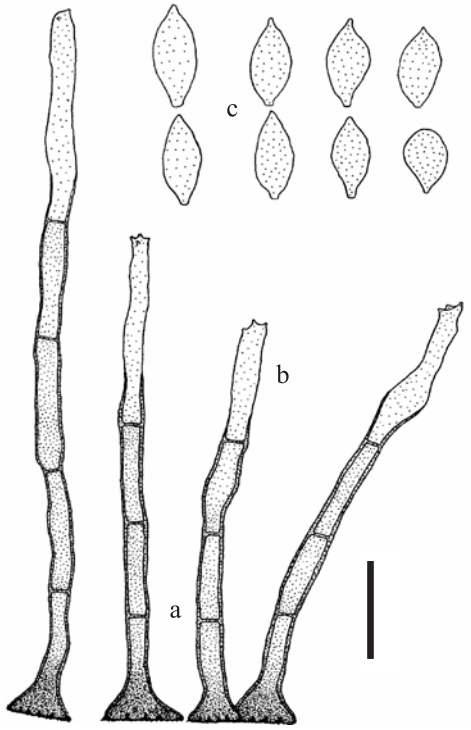


**Figure 1.** *Hemibeltrania urbanodendrii* sp. nov.: (a) Conidiophores (b) Conidiogenous cells (c) Conidia. Bar = 20 µm.

sinuose, arising from lobed basal cells, unbranched, 55.0-106.0 x 4.0-6.0 µm, 1-3 septate, smooth, chestnut brown. *Conidiogenous cells* terminal, holoblastic, cylindrical, 10-35 x 4-6 µm, ending in an obtuse tip bearing 1-5 small, short denticles, smooth, subhyaline. *Conidia* isolate, oval, obovoid, biconic to limoniform, 12-25 x 6-10 µm, pale brown, aseptate, smooth, with small unthickened truncate scars or short peduncles.

*Material examined*: BRAZIL, state of Minas Gerais, Viçosa, Mata do Seu Nico, 9th Dec 2003, VIC 30450.

Keys to species of *Hemibeltrania* are available in the literature (1) and a recent publication covering specimens in this genus collected in Brazil also includes a key to the species in the genus (3). The closer species to *H. urbanodendrii* are *H. nectandrae* (Batista & Maia) Pirozynski and *H. cinnamomi* (Deighton) Pirozynski, but the new species differs from *H. nectandrae* by two independent characters: *H. nectandrae* has branched conidiophores and conidia which are 10-14 µm wide, while the new species has unbranched conidiophores and conidia that are 6-10 µm wide. Although *H. nectandrae* was also described from leaves of *Nectandra* sp. which, as *U. verrucosum* is also a member of the Lauraceae, from Brazil, the morphological differences that were observed justify the recognition of *H. urbanodendrii* as a separate taxon. *Hemibeltrania cinnamomi* was described from living leaves of cinnamon, from Sierra Leone (Africa). Similarly to *H. nectandrae* this species also attacks a member of the Lauraceae and also differs from the new species by having wider conidia (10-12 µm) and branched conidiophores.

The second *Beltrania*-like species to be found was associated to leaf spots on *Virola gardneri* (A.DC.) Warb. (Myristicaceae). The fungus fit well into the genus *Pseudobeltrania*. Its idenfication and description are presented below:

***Pseudobeltrania angamosensis*** Matsushima, Mycological Memoirs 8: 1-44, 1995 (Fig. 2).

*Lesions* irregular pale brown with a dark center, 4-6.5 mm diam. *Internal mycelium* branched, septate, pale brown. *External mycelium* absent. *Conidiophores* in fascicles, arising from lobed basal cells, cylindrical, straight, branched, 75.0-142.5 x 4.5-7.5 µm, 3-5 septate pale brown, smooth. *Conidiogenous cells* terminal, holoblastic, poliblastic, proliferating simpodially, cylindrical, 18.0-48.0 x 4.5-6.0 µm, pale brown, conidiogenous loci conspicuous, denticulate, 2-7 per cell, 1-2 µm diam, unthickened, not darkened. *Conidia* isolate, holoblastic, biconic,16.5-30.0 x 10.5-15.7 µm, pale brown with a pale median transversal belt, scar unthickened, not darkened, 1-2 µm diam, eguttulate, smooth.

*Material examined*: BRAZIL, state of Minas Gerais, Viçosa, Mata do Seu Nico, 8th Dec. 2003, VIC 30449.

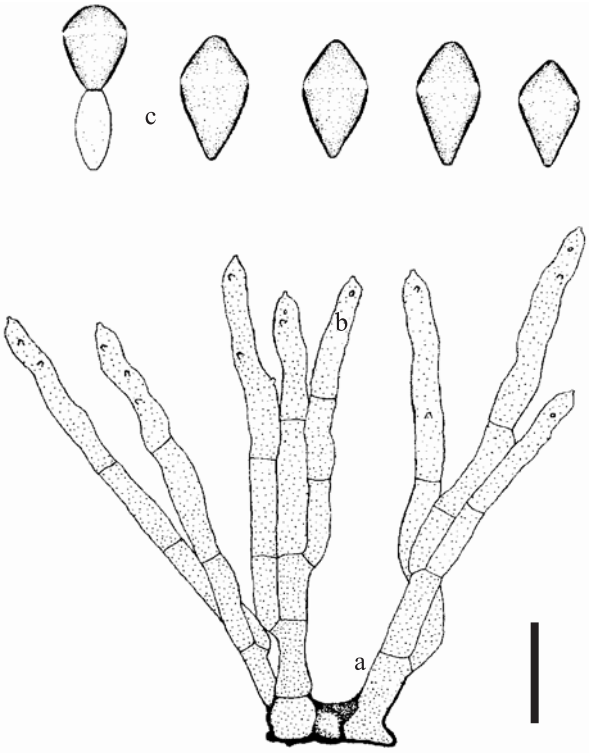


**Figure 2.** *Pseudobeltrania angamosensis*: (a) Conidiophores. (b) Conidiogenous cells. (c) Conidia. Bar = 20 µm.

*Pseudobeltrania angamosensis* was previously known only from the type locality where it was found associated to petioles of an unidentified palm in Peruvian Amazon. This new, and very disjunct geographic record, on a dicotiledenous host suggests that this fungus has a wide distribution in South America on a wide range of plant substrates.

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## RESUMO

### *Hemibeltrania urbanodendrii* sp. nov. e *Pseudobeltrania angamosensis*: novas ocorrências fúngicas da floresta tropical estacional semidecidual montana brasileira

Novas ocorrências de fungos relacionados a manchas foliares são apresentadas: *Hemibeltrania urbanodendrii* sp. nov., associado a *Urbanodendron verrucosum* (Lauracea) e *Pseudobeltrania angamosensis*, associado a *Virola gardneri* (Myristicaceae). Eles representam adições à micobiota da Floresta Tropical Estacional Semidecidual Montana de Viçosa (Minas Gerais), um ecossistema fortemente ameaçado.

**Palavras-chave:** *Urbanodendron verrucosum*; *Virola gardneri*, biodiversidade, diversidade fúngica, micobiota

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