
MYCOTAXON

<http://dx.doi.org/10.5248/120.291>

Volume 120, pp. 291–294

April–June 2012

***Phaeotrichoconis crotalariae*, endophytic on *Vitis labrusca* in Brazil**

THAÍS EMANUELLE FEIJÓ DE LIMA*, JOSÉ LUÍZ BEZERRA
& MARIA AUXILIADORA DE QUEIROZ CAVALCANTI*

*Departamento de Micologia, Universidade Federal de Pernambuco,
Rua Nelson Chaves, s/n, Cidade Universitária, Recife, 50670-901, Brazil*

* CORRESPONDENCE TO: thaisfeijo@gmail.com, xiliamac@gmail.com

ABSTRACT — *Phaeotrichoconis crotalariae* was isolated during studies with endophytic fungi on healthy leaves of *Vitis labrusca* in Pernambuco, Brazil. This is a new host for *P. crotalariae*, and the second report of this fungus from Brazil.

KEY WORDS — *Dematiaceae*, *Vitaceae*, taxonomy

Introduction

The genus *Phaeotrichoconis* was proposed by Subramanian (1956) after Salam & Rao (1954) reassessed *Trichoconis crotalariae* originally described on leaves of *Crotalaria verrucosa* L. The new genus was described as an anamorphic dematiaceous fungus with phragmosporic acrogenous brown elongated fusiform conidia with a long appendix.

Phaeotrichoconis crotalariae has a pantropical distribution in Africa, Asia, Australia, North America, and South America. It is reported to cause foliar flecks on *Acacia* spp. and has also been recorded on *Alternanthera*, *Chrysalidocarpus*, *Cocos*, *Crotalaria*, *Cyperus*, *Elaeis*, *Marsilea*, *Oryza*, *Rotala*, and *Xanthium* (Chase 1982, Ellis 1971, Miller 1997, Mishra et al. 1972, Mohanan & Sharma 1988, Old et al. 1996, Ramakrishnan et al. 1972). In Brazil, it has been reported from Ceará State as a leaf endophyte of *Copernicia prunifera* (Freire & Bezerra 2001).

Phaeotrichoconis crotalariae was found in healthy leaves of *Vitis labrusca* in the Siriji Valley (municipalities of São Vicente Férrer and Macaparana), Pernambuco, Brazil. This paper presents a description of the fungus in culture.

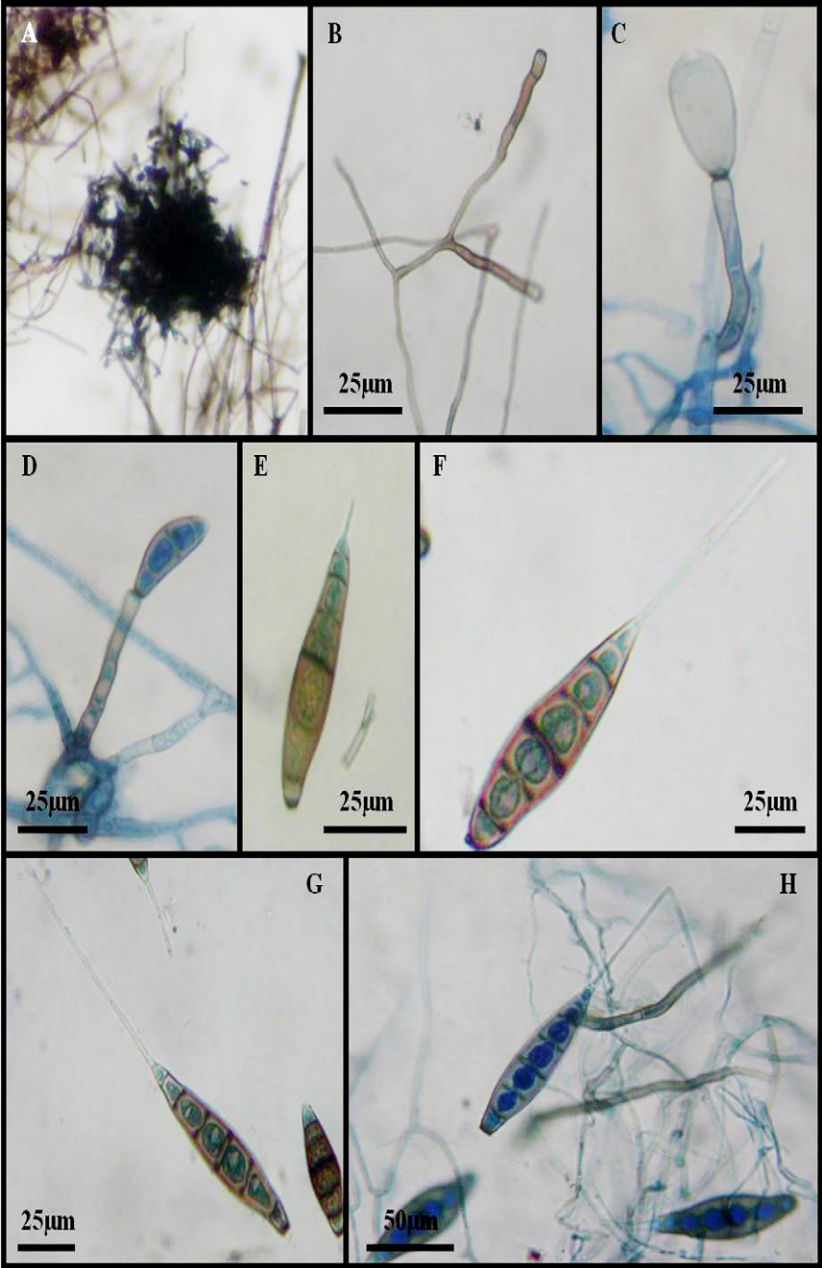


PLATE 1. *Phaeotrichoconis crotalariae*.

A. sclerotia; B. conidiophore; C-D. young conidia; E-H. mature conidia.

Materials & methods

During the February 2010 dry season, healthy mature leaves of *Vitis labrusca* were collected from forest areas of the municipalities of São Vicente Férrer and Macaparana, Pernambuco.

In the laboratory, each leaf was washed gently in running water with soap. Leaf discs were cut with a sterile metallic cork punch (6 mm diam.), decontaminated with 70% alcohol for 30 sec and hypochlorite sodium solution (NaOCl) at 2% for 2.5 min, and twice washed with sterilized distilled water in order to remove hypochlorite excess (Petrini 1996; modified technique). Six surface sterilized discs were transferred in triplicate to each Petri dish containing Potato Dextrose Agar (PDA) + chloramphenicol (50 mg.L⁻¹) to prevent bacterial growth. The plates were incubated at room temperature (28° ± 2°C) and observed daily during 15 days for colony development. For asepsis control, 50 µL of water used to remove hypochlorite was plated in PDA to confirm surface disinfection (Pereira et al. 1993). Species identification was based on macro- and micro-structural characteristics of the colony according to Subramanian (1956) and Ellis (1971). One isolated *P. crotalariae*, lyophilized and conserved in mineral oil, is maintained in the Culture Collection Depot at Universidade Federal de Pernambuco (URM).

Results

Five isolates of *P. crotalariae* were obtained from the dry season collection (February 2010).

Phaeotrichoconis crotalariae (M.A. Salam & P.N. Rao) Subram. Proc.

Indian Acad. Sci., B 44: 2 (1956)

PLATE 1

Colony on malt extract agar, incubated for eight days at room temperature (28 ± 2°C), showed well-developed, flocculate aerial mycelium, at first light orange, turning gray upon reaching maturity, reddish brown reverse. Conidiophores macronematous, mononematous, unbranched, straight or flexuous, brown, smooth, 19.2–141.6 × 3.6–4.8 µm. Polytreteic conidiogenous cells, terminal, integrated, merged, sympodial, cylindrical, with dark scars. Conidia enteroblastic, acrogenous, solitary, dry, fusiform to obclavate, elongated, rostrate, usually with 5-6 transverse septa, thick walled, smooth, with a dark brown scar at the base, 45–79.2 × 12–17.5 µm. Appendix long, hyaline to pale brown, narrow (2.4 µm diam.), 35–220.8 µm long, 0–1 thin septum. Brown-dark sclerotia present.

SPECIMEN EXAMINED: BRAZIL. PERNAMBUCO: SÃO VICENTE FÉRRER, in healthy mature leaves of *Vitis labrusca* L. cv. Isabel, 11 Feb 2010, Lima (URM 6360 [culture conserved in mineral oil and lyophilized]).

NOTES: This is the second record of *Phaeotrichoconis crotalariae* from Brazil, and the first time it has been described on artificial culture medium. The fungus has not previously been recorded from *Vitis*.

Acknowledgments

The authors thank Francisco C.O. Freire (Embrapa Agroindústria Tropical, Brazil), and Edna D.M. Newman Luz (Ceplac/Cepec/Sefit, Brazil) for critical review.

Literature cited

- Chase AR. 1982. Dematiaceous leaf spots of *Chrysalidocarpus lutescens* and other palms in Florida. Plant Dis. 66: 697–699. <http://dx.doi.org/10.1094/PD-66-697>
- Ellis MB. 1971. Dematiaceous hyphomycetes. Commonwealth Mycological Institute, Kew, England. 608p.
- Freire FCO, Bezerra JL. 2001. Foliar endophytic fungi of Ceará State (Brazil): a preliminary study. Summa Phytopathol. 27(3): 304–308.
- Miller JW. 1997. Plant pathology. Tri-ology Tech Report 36: 11–12.
- Mishra B, Prakash O, Misra AP. 1972. Incidence of *Phaeotrichoconis crotalariae* on *Cyperus iria* Linn. from Índia. Science and Culture 38: 371–372.
- Mohan C, Sharma JK. 1988. Diseases of exotic acacias in Índia. J Trop Forestry 4: 357–361.
- Old KM, Harwood CE, Robson KJ, Haines MW, Solomon DJ. 1996. Foliar pathogens of tropical acacias in Australia. 11–19, in: KSS Nair et al. (eds). Impact of Diseases and Pests in Tropical Forests. Proceedings of IUFRO Symposium, Pecchia, Kerala, Índia.
- Pereira JO, Azevedo JL, Petrini O. 1993. Endophytic fungi of *Stylosanthes*. Mycologia 85: 362–364. <http://dx.doi.org/10.2307/3760696>
- Petrini O. 1996. Ecological and physiological aspects of host-specificity in endophytic fungi. 87–100, in: SC Redlin, LM Carris (eds). Endophytic fungi in grasses and woody plants. St Paul: American Phytopathological Society Press.
- Ramakrishnan CK, Menon MR, Devi LR. 1972. *Alternanthera sessilis* R.Br. A new host of *Phaeotrichoconis crotalariae* (Salam and Rao) Subramanian comb.nov. Curr. Sci. 41: 751–752.
- Salam MA, Rao PN. 1954. A new species of *Trichoconis* on L. from Hyderabad-Dn. J Indian Bot Soc 33: 189–191.
- Subramanian CV. 1956. *Phaeotrichoconis*, a new genus of the *Dematiaceae*. Proc. Indian Acad. Sci., B 44:1–2.