

## IDENTIFICATION OF NON TYPICAL STRAINS OF *MICROSPORUM CANIS*

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### SUMMARY

Non typical strains of *Microsporium canis* were isolated from human and dog's ringworm lesions. They were studied in order to identify them.

### INTRODUCTION

Usually isolates of *Microsporium canis* are characteristic. Their culture develop quickly with a whitish cottony or wooly aerial mycelium. Soon or later a brilliant orange pigment appears in the reverse of the colony. Microscopically numerous long, multi-septate, spindle-shaped macroconideia with thick, verrucous walls are seen. From time to time some variants of *M. canis* are isolated. They may be: 1) brownish glabrous "dysgonic" culture; 2) a non pigmented or a pale yellow pigmented colony; and 3) a non-pigmented and non-producer-macroconideia strain<sup>1, 4, 6, 7</sup>.

This report is concerned with the study and identification of 5 non typical *M. canis* strains isolated in 1970.

### MATERIAL AND METHODS

Five non typical strains of *M. canis* were isolated as shows Table I.

All strains were isolated and maintained in subcultures on Sabouraud's-2% dextrose-agar for 7, 6, 3 and 1 months. Every strain was subcultivated: 1) in Petri dishes on a layer of moistened sterile soil covered with autoclaved human hair and 2) on rice grains.

### RESULTS

All but no. 1795 strain presented the same gross and microscopic morphology. On Sabouraud's dextrose agar the colonies were rapidly growing, with a very poor white wooly aerial mycelium (Fig. 1a). Reverse side of them were wholly devoid of pigment. Stunted hyphae with abnormal terminal outgrowths were seen and no macroconideia could be disclosed at microscopical examination (Fig. 1b). On human hair plus soil good growth of aerial mycelium was obtained and microscopically a good number of typical (Fig. 1c) and non typical macroconideia (Figs. 1d, 1e, 1f) could be found between the 15th and 20th day. On rice grains a poor growth of aerial mycelium and a diffusible orange pigment were verified; microscopically some typical and non typical macroconideia were seen.

On primary culture strain no. 1795 grew up as the other strains but it presented very rare typical macroconideia. It did not grow up on subcultures as Sabouraud, human hair-soil, or on rice grains media.

### DISCUSSION

*M. canis* has been the second most frequent dermatophyte isolated from human ringworm in the South of Brazil<sup>2</sup>. Sometimes they grew up as a pale yellow pigmented variant or a non-pigmented one;

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TABLE I

Sources of five non typical strains of *M. canis*

no.	Strains isolated	Host	Age	Patients' data type and localization of the lesion
1690	March, 6	woman	20y.	ringed lesion on the forearm
1717	March, 6	woman	58y.	onychomycosis of the finger nails
1718	April, 1	girl	6y.	circinate lesions over the body
1743	June, 10	dog	1y.	tonsura-like lesion on the abdomen
1795	Sept., 12	boy	12y.	tonsura-like lesion on the scalp

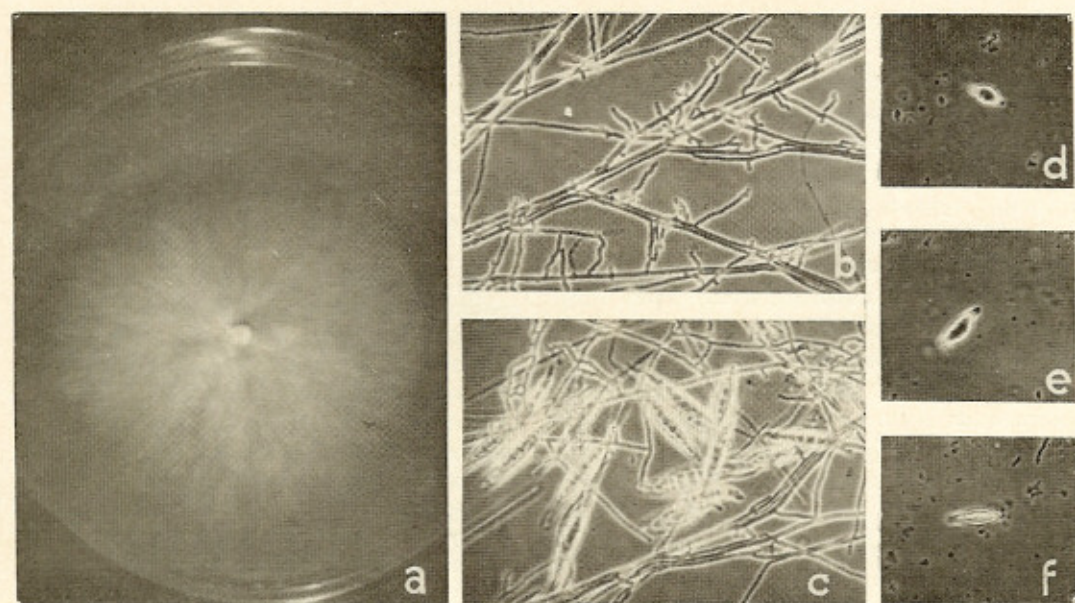


Fig. 1 — a) culture on Sabouraud's dextrose agar, 30 days. b) abnormal terminal outgrowths of the hyphae from Sabouraud's dextrose agar. 63X. c) macroconidia from human hair-soil medium, 63X. d) e, f) non typical macroconidia from human hair soil medium 63X. Photomicrographs was taken with a Zeiss Photomicroscope. Pictures have the same magnification

both of them, soon or later, presented typical macroconidia on Sabouraud's primary culture or on subcultures. Possibly, before 1970, we have had isolated also some *M. canis* strains that have been similar to these presently reported or those described by WENK & GELEIK<sup>7</sup>. Such non-producer-macroconidia strains certainly would have been discarded without identification.

In 1970, the isolation of one non-pig-

mented and non-producer-macroconidia strain among other typical ones, from the same familiar epidemic outbreak, foccuses our attention to other similar strains isolated from clinical cases suspected to be caused by *M. canis*. From January to November, nine *M. canis* strains were isolated. Four grew up as typical colonies; five were wholly devoid of pigment, but 4 of them did not produce also macroconidia.

The last four non-producer-macroconidea strains were subcultivated during 7, 6, 3 or 1 months remaining stable. No typical sectorial growth were seen over the non typical colony, neither macroconidea were disclosed on microscopic examination of them. Based in VANBREUSEGHEM & VAN BRUSSEL's<sup>5</sup> studies and the results obtained by WENK & GELEIK<sup>7</sup> we subcultivated our non typical strains on hair plus soil medium. On that medium production of macroconidea could be induced, leading us to the identification of strains. On the other hand, according to RIETH<sup>3</sup> differentiation of species of *Microsporium* are easily done by culture on rice grains. This medium induced the production of a diffusible orange pigment in four of our isolates, typifying them as *M. canis*. Strain no. 1795 was an exception, it failed to grow up on hair soil or rice grains, but it was identified in its primary culture, because it produced very rare macroconidea.

#### RESUMO

##### *Identificação de linhagens atípicas de Microsporium canis*

Estirpes atípicas de *M. canis* foram isoladas de lesões humanas e de um cão. Tais estirpes foram estudadas tendo em vista o problema de sua identificação.

#### ACKNOWLEDGEMENTS

Thanks to Mr. J. E. G. Pollak for his assistance in the English version.

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Recebido para publicação em 18/11/1970.