In vitro inhibitory activity of *Acanthospermum australe* essential oil against *Malassezia furfur* and *Malassezia sympodialis*

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Introduction

Acanthospermum australe (Loefl.) Kuntze (*A. australe*), commonly known as "tapekué" in Argentina, is a medicinal plant widely distributed in South America used by the indigenous peoples to cure skin infections, among other dermal conditions. The skin diseases associated with *Malassezia* spp. are often chronic and recurrent; in addition, topical and systemic antifungal therapies not always have successful outcome, so a large proportion of patients seek alternative natural options, obtaining in many cases excellent results.

Materials and methods

Essential oil of *A. australe* leaves collected in Riachuelo, Corrientes (north east Argentina) were used. The minimum inhibitory concentrations (MIC) were determined against 20 *M. furfur* and 10 *M. sympodialis* by broth microdilution method in accordance with CLSI M27-A3 with the modifications proposed by Rojas *et al.*, (2014). Range, arithmetic mean, mode, MIC₅₀ and MIC₉₀ values defined as the lowest concentration at which 90 and 50% of the isolates were inhibited, were also obtained.

Objective

Evaluate the *in vitro* inhibitory activity of *A. australe* essential oil against clinical isolates of *M. furfur* and *M. sympodialis*.

Results and discussion

Table 1. Range, geometric mean (Gm), mode, MIC₅₀ and MIC₉₀ of MICs against *M. furfur* and *M. sympodialis*. Values expressed in mg / mL.

	Range	Gm	Mode	MIC ₅₀	MIC ₉₀
<i>M. furfur</i>	0.50 – 2.00	1.50	2.00	2.00	2.00
<i>M. sympodialis</i>	0.25 – 2.00	1.00	1.00	1.00	2.00

Essential oil of *A. australe* showed *in vitro* inhibitory activity against clinical isolates of *M. furfur* and *M. sympodialis*. Essential oil was more active against *M. sympodialis* than *M. furfur*. These results contribute to the scientific explanation of the empirical use of *A. australe* in treating several skin infections and to the revaluation of the traditional ethnomedical knowledge. This is the first report about the inhibitory activity of *A. australe* essential oil against *Malassezia* species and contributes to the search for new compounds capable of being used in the pharmaceutical industry for the treatment of infections caused by this fungus