

ANTIFUNGAL ACTIVITY AGAINST *ASPERGILLUS NIGER* ASSOCIATED WITH
EMBRIONIC CUTICLE FROM *RHODNIUS PROLIXUS*

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Insects have their embryonic development isolated from maternal organism. Embryo survival relies on an effective mechanism of self-protection against fungal attack. Previous studies showed that the eggshell of *Rhodnius prolixus* present antifungal activity. Here, we show that the embryonic cuticle is capable of inhibiting the *Aspergillus niger* development. Embryonic cuticle is, in fact, the first exuvia left behind associated with the eggshell. The aim of this study is to identify the nature of substances that are responsible for this antifungal activity. The embryonic cuticles were dissolved and proteins, lipids and sugars isolated. The different samples were tested against *A. niger* on *Sabouraud* agar at 28°C throughout 10 days. The following samples were prepared: *in natura* (no treatment); autoclaved (120°C for 20 min); lipids free (lipid extraction: 1 chloroform:2 methanol:1 water); proteins free1 (protein digestion: 1 mg/ml papain in 5 mM sodium acetate buffer, 5 mM EDTA and 5 mM cysteine, pH 5.0); proteins free2 (protein extraction: 8 M urea in 0,36 M Tris-HCl buffer, 0,3 mM DDT, pH 8,6); lipids and proteins free (lipid extraction and papain protein digestion). Our results suggest that the antifungal activity seems to be primarily associated with protein moiety. The effect of extracted lipids and sugars on the *A. niger* growth is still under investigation.

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Key words: embryonic cuticle, antifungal activity, *Rhodnius prolixus*.