MORPHOLOGICAL CHANGES OF TRICHOPHYTON MENTAGROPHYTES UNDER THE INFLUENCE OF INCREASED CARBON DIOXIDE TENSION

by

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(with 11 figs.)

The possibility to induce a more varied morphology in the growth of dermatophytes brings out new data characterizing the species. The cultivation in natural substrates or the addition of growth factors are used to this end. Most valuable, however, proved the cultivation in increased CO₂ tension.

In the present work attention is drawn to the morphologic changes of cultures of *T. mentagrophytes* under the effect of increased CO₂ tension. These changes appear to be rather characteristic and regular.

MATERIALS AND METHODS

Six different strains of *T. mentagrophytes* were used, four granular (No 97, 123, 137 and 193) and two less granular strains (Nos 111 and 128).

Cultures are made with tests-strains on dextrose agar of Sabouraud and after Rivalier-Seydel. The Petri dishes are placed in an aerostat. 15% of the air is pumped out with a vacuum pump and is replaced by the corresponding quantity of CO₂. Cultures are incubated for 12 days at 28°C. The CO₂ percentage was readjusted on the 4th and 8th day.

RESULTS

Following a 12-day culturing the granular strains as compared with controls displayed a decreased air mycelium heaped in the center of the cultures. The granular character was partially lost and became downy-velvety with a small central knob. A broad pigment-
Fig. 1a. Asteroid growth en face.  

Fig. 1b. Control.

Fig. 2. Asteroid growth by transmitted light.