TRAVAUX MYCOLOGIQUES

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R. KÜHNER

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KUEHNEROMYCES MUTABILIS WITH MORCHELLOID HYMENOPHORE

by Morten LANGE

Abstract. — *Kuehneromyces mutabilis* occurs in a form with a morchelloid hymenophore, and with rudimentary lamellae. The morphological change was characteristic of a whole population on a stump. Later crops developed normally. The change in hymenophore position and shape is hence believed induced by a systemic disease probably caused by a virus.

In a recent paper, WATLING (1971) has given an interesting account of some abnormally developed fruit bodies of *Psilocybe merdaria* (Fr.) Ricken. In his cultures of the species he found fruit bodies of gasteromycetoid form, as well as such which could be described as cyphelloid, melanotoid, and *Weraroa*-like.

WATLING also records an extensive literature on similar « teratological » forms of different species developed under natural conditions. Specially well known is the morchelloid form of *Collybia dryophila* (Fr.) Kummer. To the list given by WATLING can be added a further example, namely a morchelloid-gastero-mycetoid form of *Kuehneromyces mutabilis* (Schaeff. ex Fr.) Sing. & Smith.

The specimens were first noted on July 5, 1971 at Elsehoved, Vejstrup on the Danish island of Fyn. On a stump of *Populus* sp. a large group of specimens had developed, forming several more or less independent clusters. All stages of development were present but all specimens had a cap with a more or less developed honeycomb like hymenophore. A detailed description of the specimens is given below.

The development was followed through 14 days, until the last specimen had aged away. A new, small crop developed on the same stump and was noted in late September. All fruit bodies were of the normal type. Also in 1972, fruit bodies of the normal type were found on the same stump throughout the season.

Except for the extraordinary shape of the hymenophore the whole development of the fruit bodies seemed perfectly normal, they developed into a comparatively dry period and aged away partly by drying up.

Kuehneromyces mutabilis (Schaeff. ex Fr.) Sing & Smith. forma teratol.

Mature caps to 4 cm broad, 3 cm high, irregularly companulate-subglobose, first pale ferrugineous, then pale chamois, finally of a pale grayish brown to greyish-ferrugineous colour. Young cap covered by pale ferrugineous fibrills which continue into the annular zone on stipe, older specimens almost naked with a narrow-meshed merulioid hymenophore developed over entire surface or part of it. Regular meshes rounded, 0.7 - 1 mm diam., but several elongated, somewhat wavy. On some meshes fine fibrills from the velum.

Margin at first even with a distinct annular veil, then lobed and remaining strongly incurved.

Gills short and broad, 4 mm, becoming pale clay colour, without anastomoses, only slightly decurrent teeth is seen below the incurved margin.

Stipe to 10 x 1.3 cm, with a membranaceous ring, on under side with dense ferrugineous felt, below the ring the stipe has scattered ferrugineous fibre scales, towards the base the colour becomes dark ferrugineous from a dense cover of fine scales.

Flesh in cap pale, very thick, up to 2.5 cm, covered by the 2-3 mm high hymenophore. Flesh in stipe solid or almost so, pale, becoming dark ferrugineous towards the base. Smell and taste as usual for the species. Sporeprint pale ferrugineous, rather thin.

Hymenophore on the cap with interwoven, almost hyalin trama and a regular palisade of basidia. Basidia 4 spored, many seemingly sterile, but of size and shape as usual for the species. Spores as in the main form as to size and colour, a few of them slightly deforme, but the large majority also as to shape as usual for the species, not notably drawing towards the gastromycetoid symmetrical shape.

Cystidia present on edges of the meshes. The more or less rudimentary, normal, lamellae, showed similar microscopical structure.

On stump of *Populus*. Elsehoved, Vejstrup, Denmark. July 5, 1971. Material in Herb. (C).

The development of *Kuehneromyces mutabilis* has recently been studied by REIJNDERS (1971). He found the species to be biveloangiocarpous. Both veils are also present in the present material in spite of the dislocated hymenophore.

While the information given by WATLING indicates that his various divergent forms were spontaneous mutants, the present findings points more towards a systemic disease as the cause of the change in morphology. I have in fact seen the species develop on the stump in question through several years. Showing no abnormal signs except in the described summer crop in

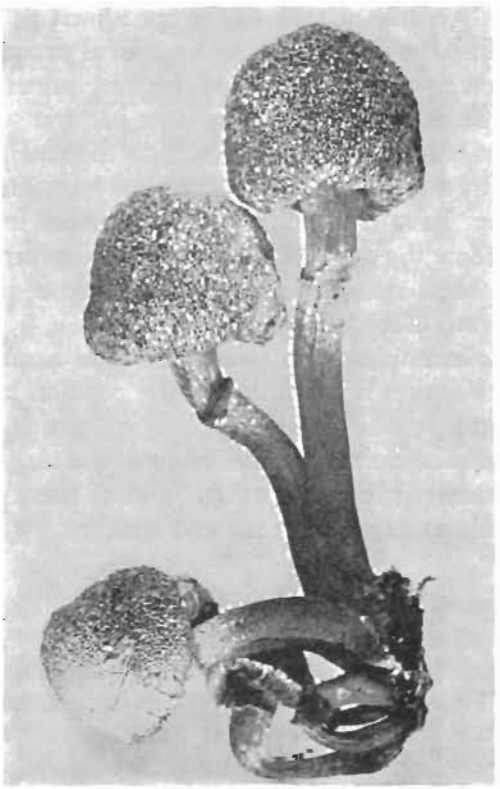

Fig. 1. — *Kuehneromyces mutabilis* forma. Part of cluster of fruit bodies with distinct morchelloid hymenophore. Remains of universal veil is seen on cap to the left. × 1.

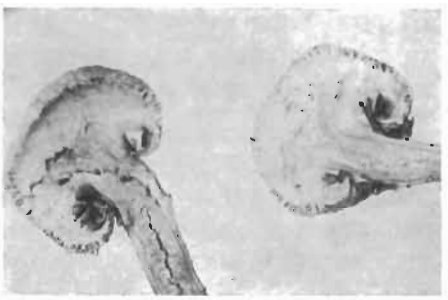

Fig. 2. — *Kuehneromyces mutabilis* forma. Section of fruit body. Note the very thick trama layer in pileus. × 1.

1971. It is extremely unlikely that this crop, which as usual covered the whole stump, should have developed from a special mycelium.

The material was carefully checked for the presence of parasitising fungi. No foreign spores, hyphae, yeast cells, or bacteria were detected. This leaves it as the most reasonable hypothesis, that the changes in morphology have been induced by a systemic disease, caused by a virus.

Several authors have delt with virus infection in fungi. BLATTNY & KRALIK (1968), show the connection between a virus attack and a development of a hymenophoral structure on the upper side of the cap of *Cantharellus infundibuliformis* (Scop.) Fr.

The numerous examples now known of such abnormal development of the hymenophore makes it evident that the position and organisation of the hymenophore must rest on genetical properties, which easily can undergo mutation. This should be borne in mind when evaluating the various species of secotioid fungi described in recent years. Some of these may in fact merely be more or less stable mutants or specimens attacked by a systemic disease.

LITERATURE

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Institut for sporeplanter,
Ø Farimagsgade 2 D,
1353 *Kobenhavn* (*Danemark*).

SOCIETE LINNEENNE DE LYON

33, RUE BOSSUET — 69006 LYON

Commission paritaire n° 52 199
Le gérant : Marc Terreaux