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A NEW SPECIES OF EMERICELLA

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In 1974, one of us (S.U.) had the opportunity to study the natural occurrence of mycotoxin-producing fungi in various parts of Malaysia and Thailand. On this occasion we found an *Emericella* which differed in several microscopic characteristics from *E. rugulosa* (Thom & Raper) C.R. Benjamin and also from all other species of *Emericella* described so far (Raper & Pennell, 1965; Wiley & Simmons, 1973; Samson & Mouchacca, 1974, 1975). Therefore, it is described below as new.

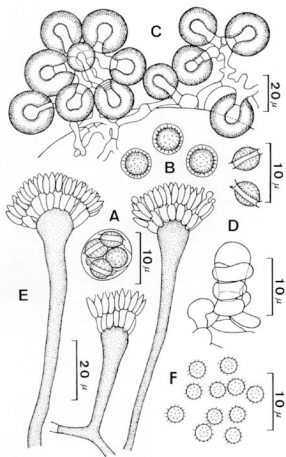
Specimens cited are deposited as follows: No. 2763 (holotype) in the Mycological Herbarium, National Institute of Hygienic Sciences (NHL), Tokyo, Japan, and No. 4522 (isotype) in the Mycological Herbarium, Research Institute for Chemobiodynamics (IFM), Chiba University, Narashino-shi, Chiba, Japan.

Emericella corrugata Udagawa & Horie sp.nov. (Figs. 1-2)

Status conidialis: *Aspergillus corrugatus* Udagawa & Horie st.nov.

Coloniae in agar Czapekii fere celeriter crescentes, basi coactae, floccosae, dilute fulvae vel obscure flavo-virides; cleistothecia abundanter producentia; fructificationes conidiorum limitatae; reversum valde rubro-brunneum. Coloniae in agar maltoso effusae, planae, obscure flavae vel olivaceae vel griseo-olivaceae, cum mycelio aereo limitatae sed cleistotheciis abundanter producentes; fructificationes conidiorum aliquantum numerosae; reversum valde flavo-aurantiacum.

Cleistothecia valde purpurea, globosa vel subglobosa, plerumque 100-240 μ m diam., cum numerosis cellulis "hülle" incrustata. Asci octospori, globosi vel ovati, 9-12 x 9-9.5 μ m, catenulati, evanescentes. Ascosporae purpureo-rubrae, lenticulares, duabus cristis praeditae, 3.5-4.5 x 3.5-4.0 μ m (sine cristis), paginis convexis irregulariter rugosis (canaliculatis). Cellulae "hülle" hyalinae, globosae vel subglobosae, 12-30 μ m diam. Capitula conidiorum



radiantia vel columnaria. Conidiophora vulgo e aeris hyphis exorientia, (20-)45-140(-200) $\times$ 3.5-5.5 μ m, sinuosa, interdum septata, rubro-brunnea, glabra, satis crassa. Vesiculae lageniformes, 9-12(-14) μ m diam., in summa parte fertiles. Metulae 5-8 $\times$ 2.5-4 μ m. Phialides ampulliformes, 6-7(-8) $\times$ 2.5-3.5 μ m. Conidia globosa vel subglobosa, 2.5-3.5 μ m diam., echinulata, dilute flavovirentia.

Typus No. 2763, NHL, isolatus e solo in thailandensis.

Cleistothecia dark purple, globose to subglobose, mostly 100-240 μ m in diam., produced within dense masses of thick-walled hülle cells; peridium thin, consisting of several layers of yellowish encrusted hyphae, at maturity darkened and somewhat coriaceous. Asci 8-spored, globose to ovate, 9-12 $\times$ 9-9.5 μ m, produced in chains from croziers, early deliquescent. Ascospores purple-red, lenticular, with two conspicuously pleated equatorial crests, 3.5-4.5 $\times$ 3.5-4.0 μ m (crests 0.5-1.0 μ m excluded), with convex surfaces irregularly wrinkled (with numerous grooves scattered when observed by scanning electron microscope). Hülle cells hyaline, globose to subglobose, 12-30 μ m in diam. Conidial heads radiate to columnar. Conidiophores mostly arising from aerial hyphae as short side branches, (20-)45-140(-200) μ m in length and 3.5-5.5 μ m in diam. at middle, sinuous, sometimes septate, reddish brown, with walls smooth, fairly thick. Vesicles flask-shaped, 9-12(-14) μ m in diam., fertile over the upper one-half to two-thirds. Metulae 5-8 $\times$ 2.5-4 μ m. Phialides flask-shaped, 6-7(-8) $\times$ 2.5-3.5 μ m, with a distinct collarete. Conidia globose to subglobose, 2.5-3.5 μ m in diam., echinulate, yellowish green in masses.

At 37 C, growth better than at 25 C and with increased production of cleistothecia and conidial structures.

Holotype - No. 2763, NHL, isolated from soil sample in sugar-cane field, Nakorn Pathom, Thailand, December 15, 1974. Isotype - No. 4521, IFM.

Other material examined - No. 4522, IFM, isolated from soil from the same cultivated site, December 15, 1974.

The new species superficially resembles *E. rugulosa* (Thom & Raper) C.R. Benjamin (Raper & Fennell, 1965) but differs in its ascospore ornamentation. The convex walls of the ascospores are irregularly wrinkled by scattered grooves, in contrast to the closely reticulate walls in *E. rugulosa* (Locci, 1972; Fig. 2). *E. nidulans* var. *echinulata* Godeas (1972), the only other species of *Emericella* with similar ascospore color and markings, is differentiated from our species in having the convex surfaces echinulate rather than wrinkled (Fig. 2).

Figure 1. *Emericella corrugata*. A. Ascus. B. Ascospores. C. Hülle cells. D. Ascocarp initial. E. Conidial structures. F. Conidia.

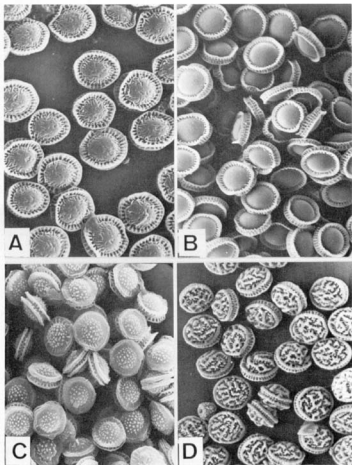


Figure 2. SEM photographs of ascospores of *Emericella* spp. A. *E. corrugata*. X 23,000. B. *E. nidulans* var. *nidulans*. X 20,000. C. *E. nidulans* var. *echinulata*. X 20,000. D. *E. rugulosa*. X 23,000.

ACKNOWLEDGMENTS

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