The TL date of 17390 ± 10% B.P. presently obtained provides an absolute date for the Upper Palaeolithic in the Kurnool cave areas, known from both cave sites and surficial open-air occurrences of blade tool assemblages. It is also significant in that it corroborates the known ^{14}C dates of the Upper Palaeolithic elsewhere in the country[6].

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PRELIMINARY REPORT OF PRODUCTION OF A NEW TOXIN BY *PENICILLIUM CYCLOPIUM*

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Penicillium cyclopium has been reported to be a common food contaminant[1-3]. In our attempts to screen the toxin(s) produced by a strain of *P. cyclopium* isolated by us from a sample of rice, a yellow pigment was secreted into the medium and a study of this compound is presented here.

P. cyclopium was grown on Raulin-Thom medium of the following composition in g/l : glucose, 50 g ; tartaric acid, 2·6 g ; ammonium tartrate, 2·6 g ; ammonium phosphate, 0·4 g ; magnesium carbonate, 0·2 g ; ferrous sulphate, 0·05 g and zinc sulphate, 0·05 g. The pH was adjusted to 6·4 and incubated at 28–30° C. After 14 days of growth, the mycelia were removed and the culture filtrate was acidified to pH 2·0 with conc. hydrochloric acid. To isolate the yellow pigment, lipid materials from the culture were first removed by extracting with *n*-hexane. Then the yellow pigment was repeatedly extracted using ethyl acetate. The ethyl acetate extract was concentrated to about 50 ml under reduced pressure in a flash evaporator at 40° C; dried by anhydrous Na_2SO_4 and finally concentrated to near dryness in vacuum. The pigment in ethyl acetate was passed through a silicagel-60 column in benzene and eluted with ethyl acetate. The eluate was dried and purified by TLC on silica gel.

The plate was developed in toluene : ethyl acetate : formic acid (5 : 4 : 1) solvent system and the yellow pigment exhibiting a dark absorbance in uv was scrapped and eluted with ethyl acetate. The pigment obtained was crystallised using ethyl acetate and alcohol.

The purified yellow pigment was found to be soluble in polar solvents like ethyl acetate,, dioxan, dimethyl formamide, ether and partially soluble in chloroform and benzene. The uv absorption spectrum of yellow pigment in absolute alcohol indicated that it has maximum absorption at 220 and 256 nm. In TLC, it had an Rf value of 0·78 and gave a reddish brown colour with phenyl hydrazine indicating that it has a carbonyl group. It reacted with Folin-phenol reagent to produce blue colour showing the presence of a phenolic-OH group.

To test the toxicity, 10 mg of the pure yellow pigment was dissolved in 20 ml of water and 1·0 ml of the solution (containing 500 mcg) was fed orally on alternate days to a dozen one day old chicks, while the control birds received the same amount of water. 80–90% mortality was observed at the end of sixth dose of administration of the compound. Histopathological examination of liver, kidney and intestine showed evidence of cell damage with inflammatory cellular infiltration in liver and kidney. In the case of intestine, inflammatory cellular infiltration in the laminar portion was seen.

This is the first time a toxic yellow pigment has been observed to be produced by *Penicillium cyclopium* and detailed work on biochemical aspects of its toxicity is being worked out.

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