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CHEMICAL CONSTITUENTS OF EULOPHIA NUDA

BY

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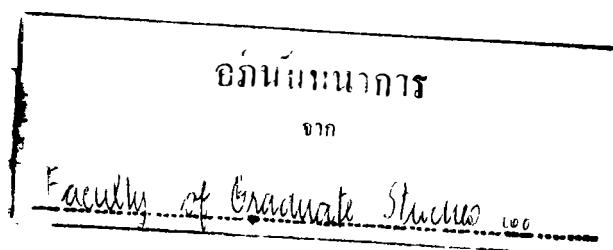
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## ABSTRACT

Systematic chemical investigation of the tubers of a terrestrial orchid, named Eulophia nuda Lindl. in our laboratory led to the isolation of seven phenanthrene derivatives: 9,10-dihydro-2,5-dimethoxyphenanthrene-1,7-diol, 9,10-dihydro-4-methoxyphenanthrene-2,7-diol, 1,5,7-trimethoxyphenanthrene-2,7-diol, 4,4',8,8'-tetramethoxy-(1,1'-biphenanthrene)-2,2',7,7'-tetrol, 9,10-dihydro-1-(4'-hydroxybenzyl)-4,7-dimethoxyphenanthrene-2,8-diol, 1-(4'-hydroxybenzyl)-4,8-dimethoxyphenanthrene-2,7-diol. Besides these phenanthrene derivatives, 3',4'-dihydroxy-3,5,5'-trimethoxybibenzyl, bis (4-hydroxybenzyl) ether, 4-hydroxybenzaldehyde and 4-hydroxybenzyl alcohol were also isolated. The structures were assigned by spectroscopic methods but largely by interpretation of 400 MHz  $^1\text{H}$  NMR spectral data making use of nuclear Overhauser effect enhancement and decoupling results. The structure of the acetate derivative of 9,10-dihydro-2,5-dimethoxyphenanthrene-1,7-diol was also determined by single-crystal X-ray diffraction.