

ALKALOIDS OF *URGINEA ALTISSIMA* AND THEIR ANTIMICROBIAL ACTIVITY AGAINST *PHYTOPHTHORA CAPSICI*

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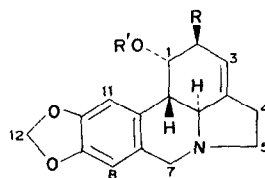
Key Word Index—*Urginea altissima*, Liliaceae, alkaloids, lycorine, acetylcaranine, antimicrobial activity;
Phytophthora capsici

Plant and source. *Urginea altissima* Bak. Plant material was collected at northern part of the Lake Rudolf, Ethiopia.

Present work. 950 g of fresh bulb tissues were extracted with MeOH. The extract showed considerable antimicrobial activity against *Phytophthora capsici*. This activity was located in the water-soluble part of the extract which (chromatographed over alumina) gave lycorine [1], (1), mp 273–278°, $[\alpha]_D^{22} -125.3^\circ$ (EtOH), (IR, NMR) as an active component. Lycorine showed protective activity against blight (*P. capsici*) of tomato plants, when an aq. soln (500 µg/ml) was sprayed on the leaves. The HCl salt exhibited a slight enhancement in activity, but diacetyllycorine, dihydrollycorine and 2-acetyllycorine possessed lower activity than that of lycorine itself.

The CHCl₃ soluble part of MeOH extract (chromatographed over Si gel, TLC) gave the alkaloid, acetylcaranine (2), C₁₈H₁₉NO₄, M⁺ 313, mp 173–174°, $[\alpha]_D^{22} -80.5^\circ$ (CHCl₃), ν_{\max}

1735 cm⁻¹ (acetate), $\lambda_{\max}^{\text{MeOH}}$ 290 nm (ϵ , 2900), NMR (CDCl₃, TMS): δ 6.72, 6.57 (each 1H, s, for H-11, H-8), 5.89 (2H, s, for H-12 methylene dioxy), 5.85† (1H, br s, for H-1), 5.40 (1H, br s, for H-3), 4.15, 3.53 (each 1H, d, J 15 Hz, for H-7 α , H-7 β) and 1.91 (3H, s, for acetyl-Me). (2) was identical with an authentic specimen (derived from caranine by acetylation; mmp, IR, NMR). This is the first report of (2) as a natural product.



(1) Lycorine R = OH R' = H
(2) Acetylcaranine R = H R' = Ac

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REFERENCES

1. Kotera, K., Hamada, Y., Tori, K., Aono, K. and Kuriyama, K. (1966) *Tetrahedron Letters*, 2009 (and references cited therein)

† The extraordinary low field shift of H-1 appears to be benzene ring anisotropy and van der Waals' effect between H-1, H-11 protons, the latter was evident on a NOE experiment

TETRANORTRITERPENOIDS FROM THE HEARTWOOD OF *CARAPA GUIANENSIS*

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Key Word Index—*Carapa guianensis*, Meliaceae, 6 α 11 β -diacetoxygedunin; 6 α -acetoxygedunin

Plant. *Carapa guianensis* Aubl. (Meliaceae). **Previous work.** The seeds of this plant have yielded

several tetranortriterpenoids [1,2]. The heartwood, obtained from Trinidad, West Indies, has