

LIGNAN AND AMIDES FROM *PIPER SYLVATICUM*

J. BANERJI and K. P. DHARA

Department of Pure Chemistry, University College of Science, Calcutta-9, India

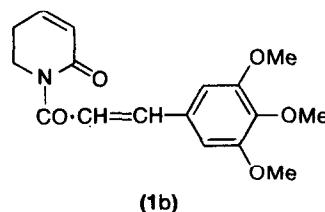
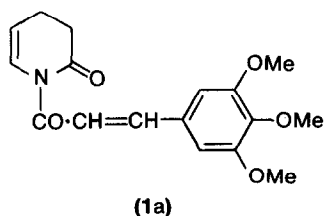
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Key Word Index—*Piper sylvaticum*. Piperaceae, Sesamin, Piperine, Piperlongumine.

The roots of *Piper sylvaticum* Roxb. are widely used as an effective antidote to snake poison in the indigenous system of Indian medicine. Earlier investigations¹⁻⁴ on the seeds of this plant resulted in the isolation of a new alkamide sylvatine in addition to 4'-7-dimethoxy-5-hydroxy flavone and the extremely unstable *N*-isobutyl-deca-*trans*-2-*trans*-4-dienamide. The results prompted us to undertake the detailed chemical investigation of the roots of this plant.

The dried roots (2.5 kg) were extracted with petrol (60–80°) at reflux temperature for 72 hr. The concentrate afforded a cream-coloured solid which was found to be a mixture of three major components from TLC over silica-gel impregnated with 5% AgNO₃ [Solvent system—C₆H₆:EtOAc (4:1)].

The solid upon chromatography over silica gel (60–100 mesh, Gouri Chemical) afforded in the petrol–C₆H₆ (2:1) eluate the lignan sesamin, C₂₀H₁₈O₆ (M⁺ 354), 118–119° m.p., *R_f* 0.7, in the petrol–C₆H₆ (1:1) fraction the alkamide piperine, C₁₇H₁₉NO₃ (M⁺ 285), 127–129° m.p., *R_f* 0.32, and in the C₆H₆ eluate another alkamide piperlongumine (Ia⁵ and Ib⁶), C₁₇H₁₉NO₅ (M⁺ 317), 121–123° m.p., *R_f* 0.4. This is the first report of the occurrence of these compounds in this *Piper* species. It may be mentioned here that piperine acts as an analeptic and exerts a stimulant action on the central nervous system (especially on the respiratory centre) in mice and dogs.



All the isolated compounds were identified by direct comparison (m.m.p., IR, co-TLC) with the respective authentic samples isolated earlier in our laboratory. The MS of the isolated compounds were identical with those of authentic samples.

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Voucher specimen No. P.S. (r) of the root has been preserved in our laboratory. This was collected by Home-O-Flora, Calcutta, and identified by botanist Dr. P. C. Dutta, Department of Botany, Calcutta University, Calcutta.

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PEPTIDE ALKALOIDS FROM *ZIZYPHUS MUCRONATA**

RUDOLF TSCHESCHE, MOHAMED ELGAMAL and GERT ECKHARDT

Institut für Organische Chemie und Biochemie der Universität, 53-Bonn, Germany

and

MICHAEL VON RADLOFF

Chemistry Department, Ahmadu Bello University, Zaria, Nigeria

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Key Word Index—*Zizyphus mucronata* Willd.; Rhamnaceae; cyclic peptide alkaloids; mucronines — A, to — H; abyssenines — A, to — C; isoquinoline alkaloid; (–)N-methylcoclaurine.

Plant. The bark and the leaves of *Zizyphus mucronata*, collected in Nigeria, January 1971.

Previous work. The eight mucronines, — A to — H^{1,2} have been isolated from the bark of *Z. mucronata*, collected in Mali. The three abyssenines, — A, — B and — C² have been found in the bark of *Z. abyssinica*, collected in Nigeria.

Present work. Extraction and identification of the alkaloids from the bark: the crude alkaloids (0.09%) were obtained by extraction of the powdered bark in the usual manner,³ and separated to pure components by means of column chromatography and preparative TLC. The compounds were identified by MS, NMR, IR, m.m.p. and co-TLC. In addition to the alkaloids which have been isolated before: abyssenines — A, — B and — C have been identified. Extraction and identification of the alkaloids from the leaves: from the polar fraction of the crude alkaloids (0.06%) mucronines — G, — H and abyssenine — C have been isolated and identified. The polar fraction contains the isoquinoline alkaloid (–)N-methylcoclaurine⁴ which has been identified by physical and chemical methods.

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