Communications to the Editor

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ENTADAMIDE A, A NEW SULFUR-CONTAINING AMIDE FROM *ENTADA PHASEOLOIDES* SEEDS[1)]

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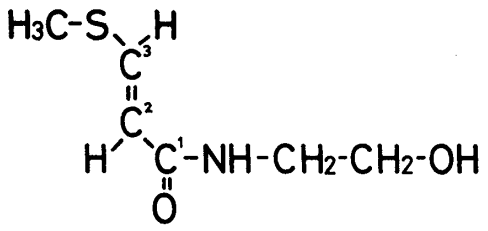
A new sulfur-containing compound (1), named Entadamide A, was isolated from the dry seeds of *Entada phaseoloides* Merr.. The structure of 1 was characterized by spectroscopic methods as *trans*-*N*-(2-hydroxyethyl)-3-methylthiopropenamide.

KEYWORDS —— *Entada phaseoloides*; Leguminosae; seed; isolation; *trans*-*N*-(2-hydroxyethyl)-3-methylthiopropenamide; Entadamide A

Entada phaseoloides Merr. (Japanese name: Modama, Leguminosae) is a woody climber growing in the tropics. The seeds of this plants are utilizing as a folk medicine to treat skin diseases and as a soap plant in Thailand and other tropics. Barua *et al.* have shown that the seeds contain oleanolic acid and entagenic acid.[2)]

Our current interest in the chemical constituents in legumes[3)] and in medicinal plants in Thailand led to the isolation of a new sulfur-containing compound (1) from the dry seed kernels of *E. phaseoloides* Merr.. We wish to report the isolation and the structural elucidation of this new natural product in this communication.

The seeds of *E. phaseoloides* Merr. were collected in June in the suburbs of Bangkok. A 75% aqueous ethanol extract of the air-dried powdered seed kernels (750 g) was concentrated *in vacuo*, saturated with anhydrous K_2CO_3 and then extracted with CH_2Cl_2 as described previously.[4)] The basic fraction (806 mg, 0.12% of dry wt) obtained was subjected to Si-gel CC (Merck, type 60, 70-230 mesh, 3 x 20 cm) using Et_2O — MeOH — 28% NH_4OH (70 : 10 : 1, v/v) and CH_2Cl_2 — MeOH (8 : 1, v/v) as eluting solvents and 5 ml fractions were collected monitoring by UV-detection at 254 nm. The 1-rich fraction was further subjected to preparative TLC on Si-gel $60GF_{254}$ (0.5 mm thick, Merck) and developed with the same solvents to yield a colorless sirup of 1 (186 mg, 0.025% of dry wt). 1 did not react with Dragendorff's reagent, but formed a violet-grey color with Iodoplatinate reagent.



Entadamide A (1)

Table I. ^{13}C-NMR Spectral Data for 1

Carbon	Chemical shift (δ)
C-1	165.9 (s)
C-2	115.7 (d)
C-3	143.4 (d)
NH-CH_2	42.6 (t)
CH_2-OH	62.2 (t)
S-CH_3	14.7 (q)

The molecular formula of 1 was determined to be $C_6H_{11}NO_2S$ (M^+, *m/z* 161.0554, calcd 161.0511) by high resolution MS(EI) measurement. The IR spectrum of 1 in $CHCl_3$ revealed bands at 3200-3500 cm^{-1} (br, NH and OH), 1640 cm^{-1} (C=O) and 1580 cm^{-1} (C=C). The ^{13}C-NMR spectrum in $CDCl_3$ indicated that the molecule was made up by one α,β-disubstituted olefine conjugated with a carbonyl group, one methyl, two methylene and one amide function, as shown in Table I. Considering the ^{13}C-NMR spectral data, all signals of the ^{1}H-NMR spectrum of 1 in $CDCl_3$ were assigned as follows: δ 7.64 ppm (1H, d, *J*=14.5 Hz, *trans*-C<u>H</u>=CHCO-), δ 5.68 ppm (1H, d, *J*=14.5 Hz, *trans*-CH=C<u>H</u>CO-), δ 6.20 ppm (1H, br, CONH, disappears on addition of D_2O), δ 3.69 ppm (2H, t, *J*=5 Hz, -OC<u>H_2</u>CH_2N), δ 3.20-3.55 ppm (3H, m, OH + -OCH_2C<u>H_2</u>N, becomes a 2H triplet (*J*=5 Hz) centered at δ 3.44 ppm on addition of D_2O), δ 2.32 ppm (3H, s, S-CH_3).

From the above results, the structure of Entadamide A (1) was elucidated to be *trans*-*N*-(2-hydroxyethyl)-3-methylthiopropenamide.

Chemical synthesis and screening tests of the biological activity of 1 are in progress.

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REFERENCES AND NOTES

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