

The isolation of 4'-methyl-N-methylcoclaurine is the first report of its occurring as a natural product, though it is synthetically known as a product from cleavage of neferine by sodium in liquid NH_3 (4).

This is the first time that co-occurrence of bis-coclaurine-type alkaloids (isoliensinine and neferine) and coclaurine-type alkaloids [(±)-armepavine and 4'-methyl-N-methylcoclaurine] in the embryo loti is reported.

EXPERIMENTAL

EXTRACTION AND ISOLATION.—Dried and powdered embryo loti (168 g) was extracted seven times with hot MeOH. The MeOH extract was concentrated in vacuo to a syrup, mixed with 3% tartaric acid solution and filtered. The filtrate was made alkaline with NH_4OH solution and extracted with Et_2O . The Et_2O solution was treated with 3% NaOH solution. The aqueous solution was adjusted to pH 10 with NH_4Cl and then extracted with Et_2O . The Et_2O extract dissolved in CHCl_3 was treated successively with pH 5.5 and 5.0 McIlvaine buffer solutions. Chromatography of the crude alkaloids from the pH 5.5 McIlvaine buffer solution on a silica gel column eluting with a $\text{CHCl}_3/\text{MeOH}$ gradient afforded isoliensinine (21 mg) and (±)-armepavine (16 mg). Chromatography of the crude alkaloids from the pH 5.0 McIlvaine buffer solution on a silica gel column eluting with a $\text{CHCl}_3/\text{MeOH}$ gradient afforded neferine (37 mg) and 4'-methyl-N-methylcoclaurine (13 mg).

All four compounds were identified by comparison of their physical and spectral properties with those reported in the literature (3-5).

TEST FOR ANTIHYPERTENSIVE ACTIVITY.—Spontaneously hypertensive rats were anesthetized with pentobarbital Na, 50 mg/kg, ip and urethane, 1.75 g/kg, sc. Each sample (10 mg/kg) was administered intravenously to those rats through the femoral vein and tested for its antihypertensive activity. Blood pressure was directly measured by carotid artery cannuration.

Full details of the isolation, identification, and antihypertensive activity of the compounds are available on request to the senior author.

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METABOLITES FROM THE FERMENTATION OF *ULOCLADIUM BOTRYTIS*

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Fungal metabolites have gained attention recently in view of their chemical diversity. There are no reports on the chemical constituents of *Ulocladium botrytis* Preuss, a seed-borne fungus of pearl millet (*Pennisetum typhoides*) and hence the present investigation.

EXPERIMENTAL

Monosporic cultures of *U. botrytis* in modified Czapeks medium (1) were incubated at 27-29° for 15 days. The whole cultures were extracted in a liquid-liquid extractor using CHCl_3 . Silica gel column chromatography of the extract using petroleum ether and C_6H_6 yielded dodecane (ir, ^1H nmr, ms) (2) and 9,10,12,13-tetrahydroxyheneicosanoic acid (ir, ^1H nmr, ms) (3,4). The latter compound was earlier reported from the fungus *Haematomma ventosum* (4).

The details of isolation and identification of the compounds are available on request.

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MARINE NATURAL PRODUCTS: 3-FORMYLINDOLE FROM THE RED
ALGAE *BOTRYOCLADIA LEPTOPODA*

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3-Formylindole has been isolated from the red alga *Botryocladia leptopoda*. (J. Ag) Kylin.

EXPERIMENTAL

B. leptopoda was collected in April 1985, around Patcha near Karachi, and a voucher specimen has been deposited in the Department of Botany, University of Karachi.

After soaking 1.5 kg (wet weight) of the alga in MeOH for 1 week and evaporation under reduced pressure yielded 5.8 g of crude extract which was partitioned between EtOAc and H₂O. The EtOAc extract thus obtained was subjected to column chromatography. The fraction eluted with hexane-Et₂O (75:25) yielded a crystalline compound (8 mg). Further recrystallization was carried out with MeOH. This compound, mp 180°, was identified as 3-formylindole on the basis of comparison of its mass, ¹H-nmr (1) and ¹³C-nmr spectra with literature values (2).

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CHEMICAL CONSTITUENTS OF THE BARK OF *TERMINALIA ALATA*¹

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In continuation of our chemical studies on *Terminalia alata* Heyne ex Roth (Combretaceae) (1,2), we report here the isolation of betulinic acid (3), arjunic acid (4), arjunolic acid (1,2), arjunetin (5), and ellagic acid (6) from the trunk bark. This is the first report of the isolation of betulinic acid from the genus *Terminalia*. It is also obtained from the heartwood.

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