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MINOR ALKALOIDS OF *RAUWOLFIA CAFFRA*

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Key Word Index—*Rauwolfia caffra;* Apocynaceae; root: indole alkaloids: aricine: renoxidine: sarpagine: yohimbine.

Plant. Rauwolfia caffra Sond. *Plant part.* Root bark. *Source.* Kokstad, Pondoland, South Africa (voucher No. RAU101-571, deposited with the Collection of Materia Medica and Herbaria, University of Bradford); Louis Trichardt, Northern Transvaal (voucher No. RAU101-574). *Previous work.* Isolation of indole alkaloids reserpine, ajmaline,[1] serpentine,[2] rescinnamine,[3] ajmalicine and raucaffricine[4] from root bark.

Present work. Ten alkaloids were isolated; aricine, renoxidine, sarpagine and yohimbine have not previously been isolated from *R. caffra.*

EXPERIMENTAL

Extraction and fractionation. Dried powdered bark was extracted with ammoniated MeOH and fractionated as described earlier.[5] The weakly basic fraction was extracted successively with Et_2O–EtOAc-isooctane–xylene (8:1:9:3), acetone–CCl_4–isooctane–light petrol. (1:7:3:9) and acetone–CCl_4–isooctane–light petrol. (7:4:3:6) to yield fractions *A, B, C* and residue *D.* Fractions *A* and *B* were further separated on silica columns to yield fractions A_1, A_2, B_1 and B_2. The strongly basic fraction was extracted with HOAc–acetone–light petrol. (1:20:79) to yield fraction *E* and residue *F.*

The alkaloids were recovered from the dried fractions by crystallization using various solvents and purified by recrystallization. Using co-TLC (6 systems), chromogenic reactions, m.p., m.m.p., UV, IR and MS, aricine (A_1), ajmalicine (A_2), reserpine (B_1), rescinnamine (B_2), yohimbine (*C*), raucaffricine (*D*), ajmaline (*E*) and serpentine (*F*) were identified. *Aricine*, yellow powder, m.p. 142–146°; UV_{max}, 228, 280, 290 nm; MS *m/e* 382 (M^+), 381, 351, 255, 200, 199, 187, 95. Identical with reference material (m.m.p., co-TLC, IR). *Yohimbine*, white needles, m.p. 230–232°; UV_{max}, 227, 282, 289 nm; MS *m/e* 355, 354 (M^+), 353, 295, 184, 170, 169, 156, 144, 143. Identical with reference material (m.m.p., co-TLC, IR).

Preparative TLC on silicagel plates (layers 500 μm thick) using the solvent systems acetone–CCl_4–isooctane–light petrol. (7:4:3:6) and acetone–Et_2NH–MeOH (7:1:2) enabled the recovery and identification of renoxidine and sarpagine. *Renoxidine*, yellow powder, m.p. 236–239°, UV_{max}, 226, 265, min. 242 nm; IR ν_{max}^{KBr} 3500 cm^{-1} (NH), 3000 cm^{-1} (NH), 2500 cm^{-1} (ester); MS *m/e* 625, 624 (M^+), 623, 608, 593, 512, 414, 198, 95. *Sarpagine*, greyish-white powder, m.p. 345–348°; UV_{max}, 223, 274, min. 242 nm; IR ν_{max}^{KBr} 3450 cm^{-1} (NH, OH), 1580 cm^{-1} (Ph–N<); MS *m/e* 310 (M^+), 196, 185, 183, 149, 97.

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