672): 5%: vobasine: 50%; drégamine: 20%; tubotaïwine: 1%. Les alcaloïdes connus ont été identifiés.[2]

Ecorces de tronc. Les alcaloïdes (18 g/kg) sont extraits puis traités comme précédemment. On isole: tubotaïwine (16%); vobasine (25%); drégamine (14%). Pas de (M^+ 672).

Feuilles. La chromatographie des alcaloïdes (3,2 g/kg) permet d'isoler la tubotaïwine (3%) et un produit amorphe (M^+ 644 SM): 3%. Le reste est à l'étude.

Conclusion. De par les alcaloïdes présents, *Pandaca mauritiana* se rapproche bien, du point de vue chimiotaxonomique, d'autres *Pandaca* malgaches déjà étudiés[3,4] sous des synonymes botaniques. Des travaux, en cours dans notre laboratoire[5] et intéressant un autre genre malgache: *Hazunta*, permettront de mieux définir les relations chimiotaxonomiques existant entre le genre *Pandaca* et le genre *Hazunta*.

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LEAF ALKALOIDS OF *RAUWOLFIA CAFFRA*

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Key Word Index—*Rauwolfia caffra*; Apocynaceae; leaf; indole alkaloids; ajmaline; perakine; sarpagine; serpentine; tetrahydroalstonine; vomifoline.

Plant. Rauwolfia caffra Sond. *Plant part.* Leaf. *Source.* Mweka-Moshi, Tanzania (voucher No. RAU101-691, deposited with the Collection of Materia Medica and Herbaria, University of Bradford). *Previous work.* Isolation of serpentine from leaf tissue culture.[1]

Present work. Six alkaloids were isolated and identified. The principal alkaloids of the leaf are ajmaline and serpentine. The pharmacologically important weakly basic alkaloids reserpine and rescinnamine which occur in the root[2] could not be detected in the leaves.

EXPERIMENTAL

Extraction and fractionation. Dried powdered leaves were extracted by continuous extraction with ammoniated MeOH and the extract fractionated as described earlier.[3] The alkaloids were separated by 2-D TLC using the solvent systems HOAc–acetone–petrol. (2:9:9) and *n*-BuOH–EtOAc–$C_2H_2Cl_2$ (1:3:6). Sufficient material was recovered for UV and IR determinations. Alkaloids were also separated by modified dry column chromatography using the above solvent systems and HOAc–MeOH–petrol. (1:2:7) and Et_2NH–MeOH–petrol. (1:2:7). Purity of the recovered alkaloids was confirmed by TLC (6 systems[4] and 2-D).

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Ajmaline and *serpentine*, identical with reference alkaloids (m.p., m.m.p., chromogenic reactions, co-TLC (6 systems), UV, IR and MS. *Perakine*, yellowish-white crystals, m.p. 180–184°, UV_{max} 214,260 nm. IR: ν_{max}^{KBr} 3500, 3000, 1730, 1670 cm^{-1}. MS: *m/e* 350 (M^+), 335, 321, 308, 291, 196, 182, 169, 168. *Sarpagine*, greyish-white powder, m.p. 345–348°. UV_{max}: 224, 277 nm. IR: ν_{max}^{KBr} 3450, 3000, 1632, 1603, 1280, 1267, 1241, 1119 cm^{-1}. MS: *m/e* 310 (M^+), 309, 293, 281, 279, 263, 249, 239, 207, 182, 169, 168, 156, 154. *Tetrahydroalstonine*, white crystals, m.p. 242–246°. UV_{max}: 226, 291 nm. IR ν_{max}^{KBr} 3500, 3000, 1730, 1610, 1580 cm^{-1}. MS *m/e* 352 (M^+), 351, 350, 291, 221, 196, 182, 180, 169, 168, 154 (m/e 184 less abundant than *m/e* 169 indicates D/E *cis*). *Vomifoline*, white crystals, m.p. 186°. UV_{max}: 226, 280 nm. IR: ν_{max}^{KBr} 3400, 3000, 1720, 1630 cm^{-1}. MS: *m/e* 310 (M^+), 309, 292, 281, 249, 221, 209, 207, 195, 182, 169, 168, 156.

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2-METHOXY-1,4-NAPHTHOQUINONE IN *IMPATIENS GLANDULIFERA* AND RELATED SPECIES

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Key Word Index—*Impatiens glandulifera*; Balsaminaceae; Indian Balsam; 2-methoxy-1,4-naphthoquinone.

Plant. Impatiens glandulifera Royle. *Source.* Banks of river Vesdre, Forêt, Belgium. Considered as poisonous.[1] *Previous work.* 2-Methoxy-1,4-naphthoquinone[1] and lawsone from flowers of *I. balsamina.*[2]

Dried leaves were extracted with $CHCl_3$. After concentrating to dryness under reduced pressure, H_2O was added. After stiring and filtering, the aqueous solution was extracted with $CHCl_3$. Further purification by preparative TLC on silica gel with $CHCl_3$–*n*-C_6H_{14} 9:1 afforded amorphous **1**. Repeated crystallization from absolute ethanol yielded light yellow needles.

2-Methoxy-1,4-naphthoquinone. $C_{11}H_8O_3$, m.p.: 183°; λ_{max}^{EtOH} nm: 243, 248, 277 and 330 ($\log \epsilon$ 4·22, 4·24, 4·16 and 3·36); ν_{max}^{KBr} cm^{-1} 1680, 1645, 1600 and 1240. NMR: δ $CDCl_3$ 8·10 (2H, *m*), 7·75 (2H, *m*), 6·19 (1H, *s*), 3·93 (3H, *s*). MS: *m/e* 188(100) 173(33) 159(30) 158(57) 130(8) 104(10) 102(34) 89(49) 76(22) 69(15) 50(15).

Spectrophotometric estimation showed an amount of 0·1% of **1** in dried material of *I. glandulifera*. However, the presence of **1** could not be established in three other species, *I. noli-tangere* L. and *I. parviflora* DC. collected in Belgium, and *I. niamniamensis Gilg.* obtained from Rwanda. Lawsone was also not found in these four species.

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