

gewiesen und strukturell aufgeklärt worden. Uns standen geringe Mengen Pflanzenmaterial von *Tecoma radicans* zur Verfügung, die wir auf ihren Alkaloidgehalt untersucht haben. Der nach üblichen Methoden aus alkalisiertem Pflanzenmaterial erhaltene ätherische Rohalkaloidextrakt wurde DC-aufgetrennt (Kieselgel H, CHCl_3 - C_6H_6 -MeOH, 10:2:1). Es konnte nur ein Dragendorff-positives Hauptalkaloid nachgewiesen werden, das durch Vergleichschromatographie in verschiedenen Laufmittelsystemen und durch GC (Säulenfüllung 1% SE 30, 100–120 mesh) als Boschniakia* identifiziert wurde. Dieses Alkaloid ist bisher nur aus *Boschniakia rossica* (Cham. et Schldl.)¹³ und *Tecoma stans* Juss.¹⁰ isoliert worden und zeigt strukturelle Ähnlichkeit zu dem aus *Plantago*- und *Pedicularis*-Arten isolierten Indicain (vgl.¹⁴).

* Herrn Dr. T. Sakan, Osaka, Japan, danken wir für die freundliche Überlassung von Boschniakia-semicarbazon.

¹³ T. SAKAN, F. MURAI, Y. HAYASHI, Y. HONDA, T. SHONO, M. NAKAJIMA und M. KATO, *Tetrahedron* **23**, 4635 (1967).

¹⁴ D. GROSS, *Fortschr. Chem. Org. Naturst.* **28**, 109 (1970).

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APOCYNACEAE

TRITERPENES FROM *ALSTONIA BOONEI*

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Key Word Index—*Alstonia boonei*; Apocynaceae; triterpenes; β -amyrin acetate; β -amyrenone; lupeol; sitosterol.

The Yorubas of Western State of Nigeria use extracts of the bark of *Alstonia boonei* De Wild, to cure malaria. The extract also slows down the rate of deterioration of palm-wine. Preliminary tests in this laboratory indicated the presence of bacterial inhibitor(s) in the bark, and earlier, during a study of its pharmacological effects, it was shown that the bark contains mainly echitamine.*

Fresh bark of the plant, collected from a tree on the University campus was used. The bark, when slashed, yielded a copious white latex which coagulated to a yellow solid after exposure to the atmosphere. The bark was cut into small pieces, ground in a Waring blender, and extracted with light petrol. (40–60°), CHCl_3 and MeOH.

The following compounds were obtained from the extracts after being chromatographed over alumina: β -Amyrin acetate (6% yield) separated as feathery crystals from EtOH.

* A paper presented at the conference of West African Council for Medical Research in February 1972, by V. O. Marquis and M. Kucera, University of Ife, Nigeria.

M.p. 236–238°, $[\alpha]_D^{20} + 76^\circ$ (CHCl_3); $\text{C}_{32}\text{H}_{52}\text{O}_2$ (M^+ by MS was 468). On hydrolysis it gave needles (β -amyrin), m.p. 197°. The compound was confirmed by superimposable IR, NMR, UV spectra with authentic acetyl derivative of β -amyrin.

β -Amyrenone (2.8% yield) crystallized from MeOH. M.p. 177°, $[\alpha]_D + 107.2^\circ$ (CHCl_3). $\text{C}_{30}\text{H}_{48}\text{O}$ (M^+ 424 by MS). Superimposable IR, NMR, UV spectra with authentic specimen prepared from oxidation of β -amyrin. Lupeol (1.35% yield) crystallized as needles from MeOH. M.p. 216°, $[\alpha]_D^{20} + 27.2^\circ$ (CHCl_3). The MS showed a MW of 426 ($\text{C}_{30}\text{H}_{50}\text{O}$). Its acetate melted at 215–216°, and its benzoate at 258–259°. When hydrogenated it produced lupanol, m.p. 201°; and the MS had a molecular ion peak at m/e 428. Its oxidation product (lupen-3-one), m.p. 170°, $[\alpha]_D^{20} + 63.5^\circ$. Sitosterol (1.9% yield). M.p. 137–138°, $[\alpha] - 37^\circ$ (CHCl_3). It had an MS characteristic of 3 β -hydroxy steroid (M^+ 414). Molecular formula $\text{C}_{29}\text{H}_{50}\text{O}$. Its acetate melted at 127°. This was confirmed by IR, NMR, UV and co-TLC with an authentic sample of sitosterol.

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LIGNAN DIGLUCOSIDES FROM *TRACHELOSPERMUM ASIATICUM*

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Key Word Index—*Trachelospermum asiaticum* var. *intermedium*; Apocynaceae; lignans; matairesinol-4,4'-di-*O*- β -D-glucopyranoside and nortrachelogenin-4,4'-di-*O*- β -D-glucopyranoside.

We report the isolation of two new lignan glucosides; matairesinol-4,4'-di-*O*- β -D-glucopyranoside(I) and nortrachelogenin-4,4'-di-*O*- β -D-glucopyranoside(IV), from the stems of *Trachelospermum asiaticum* Nakai var. *intermedium* Nakai.

The stems (25 kg) were extracted with hot MeOH and the MeOH solution evaporated to small volume, diluted with H_2O and filtered. The filtrate was extracted with successive, light petrol., Et_2O and CHCl_3 . The aqueous layer was concentrated to syrup and extracted with hot EtOAc . The residue was extracted with CHCl_3 -MeOH (2:1). The CHCl_3 -MeOH extractive was column chromatographed on activated charcoal and eluted by MeOH- H_2O (49:1), MeOH- H_2O (1:1) and MeOH. The MeOH eluate was concentrated, chromatographed on silica gel column and eluted by CHCl_3 -EtOH (3:2). The fraction showing R_f 0.16 spot on TLC [Merk silica gel G, CHCl_3 -MeOH (3:1)] was evaporated to give I (51.4 mg).

The residue after CHCl_3 -MeOH extraction was column chromatographed on activated charcoal, followed by silica gel column chromatography in a similar manner as CHCl_3 -MeOH extractive. The fraction showing R_f 0.09 spot on TLC gave IV (41.7 mg).