Phytochemistry, 1975, Vol. 14, pp. 578–579. Pergamon Press. Printed in England.

ALKALOIDS AND TERPENOIDS OF *ANCISTROCLADUS HEYNEANUS*, *SAGITTARIA SAGITIFOLIA*, *LYONIA FORMOSA* AND *HEDYCHIUM SPICATUM**

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(*Received* 16 *June* 1974)

Key Word Index—Ancistrocladaceae, Alismaceae, Ericaceae, Zingiberaceae; alkaloids; flavonoids; steroids; triterpenoids.

Plant. Ancistrocladus heyneanus Wall. (Ancistrocladaceae). Occurrence. Western Ghats of India and Mysore. Previous Work. Root [1–9] and leaves [10].

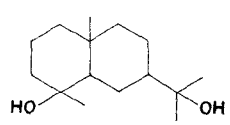
Aerial Part. During the course of screening programme at Central Drug Research Institute, Lucknow this plant showed a good order of spasmolytic activity. This activity was found to be located in C_6H_6 and $CHCl_3$ fractions of EtOH extractive which (chromatographed over silica gel) gave ancistrocladine $C_{25}H_{29}O_4N$† m.p. 265° (m.m.p., IR, NMR and MS), ancistrocladinine $C_{25}H_{27}O_4N$ m.p. 234–236° (m.m.p., IR, NMR and MS), ancistrocladisine $C_{26}H_{29}O_4N$ m.p. 178° (m.m.p., IR, UV, NMR and MS), ancistrocladidine $C_{25}H_{27}O_4N$ m.p. 248° ($[\alpha]_D$, IR, UV, NMR, MS, acetate, hydrochloride, dihydroancistrocladidine and its acetate), lupeol $C_{30}H_{50}O$ $[\alpha]_D$ +30° (m.m.p., IR, NMR and MS), hentriacontanol $C_{31}H_{64}O$ m.p. 84° (m.m.p. and acetate and sitosterol $C_{29}H_{50}O$ m.p. 135° $[\alpha]_D$ −35° (m.m.p., IR, NMR and acetate). Butanol fraction (chromatography over silica gel) gave quercetin $C_{15}H_{10}O_7$ m.p. 310° (m.m.p., IR, UV and penta acetate).

Plant. Sagittaria sagittifolia Linn. (Alismaceae). Occurrence. Throughout the plains of India. Previous Work. Plant [11]. EtOAc fraction of EtOH extractive (Chromatography over silica gel) gave sitosterol-β-D-glucoside $C_{35}H_{60}O_6$ m.p. 296° $[\alpha]_D$ −50° (pyridine) (m.m.p., acetate and NMR). Acid hydrolysis furnished sitosterol (m.p., m.m.p., $[\alpha]_D$ and acetate) and glucose (PC).

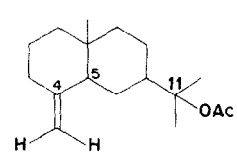
Plant. Lyonia formosa Hand.-Mazz (Ericaceae). Occurrence. N.E.F.A. Previous Work. Plant [12, 13].

Plant. C_6H_6 fraction of EtOH extractive (Chromatography over alumina) gave ursolic acid $C_{30}H_{48}O_3$ m.p. 261° $[\alpha]_D$ +65° (m.m.p., IR, NMR and MS); acetate $C_{32}H_{50}O_4$ m.p. 285° $[\alpha]_D$ +60° (IR, NMR and MS); methylester m.p. 200° $[\alpha]_D$ +40° (IR and NMR).

Plant. Hedychium spicatum (Zingiberaceae). Occurrence. At higher altitudes in Himalaya. Rhizome. EtOH extract of this plant displayed a good order of anti-inflammatory activity [14]. This activity was found to be located in benzene fraction of this extract. Benzene fraction (chromatography over silica gel) afforded sitosterol (m.p., m.m.p., NMR and acetate), sitosterol-β-D-glucoside (m.p., m.m.p., $[\alpha]_D$, acetate and NMR). Acid hydrolysis yielded sitosterol (m.p., m.m.p., $[\alpha]_D$ and glucose (PC) and cryptomeridiol (**1**) [15] $C_{15}H_{28}O_2$ m.p.



(1)



(2)

135° $[\alpha]_D$ −25·8° M^+ 240 (m.m.p., IR, NMR and MS). On acetylation with fused MeCOONa in Ac_2O at 140° for 4 hr under N_2 atmosphere cryptomeridiol gave a dehydrated monoacetate (**2**) $C_{17}H_{28}O_2$ ν_{max} 1733 and 1252 Cm^{-1}. In the NMR spectrum the signal at 8·02 τ is due to an acetyl function, a deshielded singlet at 8·55 τ due to a gemdimethyl group at C-11, an unresolved pair of

* Communication No. 1962 from Central Drug Research Institute, Lucknow, India.

† Satisfactory analysis, IR determined in KBr, $[\alpha]_D$ in $CHCl_3$ and 60 Mcs NMR in $CDCl_3$ with TMS as internal standard.

doublets due to a vinyl group at C-4 and a multiplet at 6·87 τ due to C-5 H. Other features were similar to that of cryptomeridiol. This is the first successful attempt to prepare this acetate.

Acknowledgements—The authors thank Prof. T. A. Geissman, University of California, U.S.A. for a sample of cryptomeridiol and Dr. T. R. Govindachari for ancistrocladine, ancistrocladisine and ancistrocladinine.

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Phytochemistry, 1975, Vol. 14, pp. 579–580. Pergamon Press. Printed in England.

ALCALOÏDES DU *PANDACA SPECIOSA*

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(*Reçu le 7 juillet* 1974)

Key Word Index—*Pandaca speciosa*, Apocynaceae; indole alkaloïds; ibogaïne; voacangarine; iboxygaïne; voacangine; ibolutéïne; descarbométhoxyvoacamine.

INTRODUCTION

Dans le cadre de l'étude chimiotaxinomique du genre *Pandaca* [1], la présente note decrit les alcaloïdes présents dans les feuilles, écorces de tige et écorces de racine du *Pandaca speciosa* Mgf [2] considéré par l'auteur comme une espèce très archaïque.

Plante. Les échantillons ayant servi à ce travail ont été récoltés par l'un de nous (M.-M.D. herbier 1258) à Vondrozo dans l'île de Madagascar; ils ont été identifiés† par comparaison directe avec l'holotype (28684 Capuron).

Isolement des alcaloïdes. Les alcaloïdes (A.T.) ont été isolés des divers organes par le procédé usuel et avec les rendements suivants (g/Kg): écorces de tige 21, écorces de racine 31, feuilles 9. La solution benzènique d'alcaloïdes totaux est chromatographiée sur colonne d'alumine. L'élution progressive par C_6H_6, Et_2O, MeOH conduit à des fractions qui sont regroupées en fonction de leur composition qualitative semblable, contrôlée par ccm. Les alcaloïdes purs sont isolés de ces fractions, soit par une seconde chromatographie sur colonne d'alumine, soit par chromatographie sur

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† Nous remercions le Professeur F. Markgraf pour cette identification.