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TRITERPENES OF *SCHINUS TEREBENTHEFOLIUS*

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Key Word Index—*Schinus terebenthefolius*; Anacardiaceae; masticadienonic acid; 3α-hydroxy-masticadienonic acid; sitosterol; simiarenol.

Plant. Schinus terebenthefolius Radd. *Source.* Curitiba, Paraná, Brazil. *Uses.* Fruits have paralyzing effect on birds, upon ingestion. *Previous work.* On fruits.[1-3]

Present work. Leaves. Acidic and neutral separation of a C_6H_6 extract of dried and finely ground leaves, followed by various chromatographic techniques, yielded a series of triterpenes listed below in increasing order of polarity.

Acidic fraction. (a) A triterpene acid [0·061 g), m.p. 270°; IR, strong absorption at 3500–2500, 1690, 1710, 1645, 1380 cm^{-1} indicating the presence of carboxyl, carbonyl, conjugated double bond, and *gem*-dimethyl groups. The NMR spectrum in $CDCl_3$ confirmed the similarity of the compound to masticodienonic acid, differing only in the position of a double bond. The MS M^+ at *m/e* 454,34 ($C_3OH_4CO_3$), base peak at *m/e* 245, second highest peak at *m/e* 235 (64%) suggested a Δ^{9-11}, and not a Δ^{8-9} double bond as in masticadienonic acid. Unfortunately the material was not present in sufficient quantity to allow further analysis. (b) Masticadienonic acid (2·0 g), m.p. 178–180°; $[\alpha]_F^{22}$ −73·4° (*c* 2, $CHCl_3$); the IR spectrum had strong absorptions at 3500–2500, 1690, 1710, 1645, 1380 cm^{-1} suggesting that carboxyl, carbonyl, conjugated double bond, and *gem*-dimethyl groups were present. The MS showed M^+ *m/e* 454·34 ($C_{30}H_{46}O_3$), *m/e* (%) 454 (16·5), 439 (100), 421 (21·8), 139 (2·3), 95 (47), 81 (20), 55 (29). The NMR spectrum suggested the presence of five tertiary methyl groups, a vinyl methyl group, and two vinyl protons. An authentic sample was not available for a m.m.p. but the spectral data were in accordance with those reported.[1-3] (c) 3α-Hydroxymasticadienonic acid m.p. 147°; $[\alpha]_F^{22}$ −42° (*c* 1,4, $CHCl_3$–MeOH, 1:1). The IR spectrum showed strong peaks at 3500–2500, 1700; 3450, 1065; 1700; 1645; 1380 cm^{-1} indicating the presence of carboxyl, 3α-hydroxyl, conjugated double bond, and *gem*-dimethyl groups. The MS, M^+ *m/e* 456·35 ($C_{30}H_{48}O_3$), *m/e* (%) 423 (100), 301 (12), 139 (8), 95 (43), 81 (23), 55 (36), had a fragmentation pattern similar to masticadienonic acid. The NMR spectrum suggested the presence of seven methyl and 3-α hydroxyl groups.

Neutral fraction. yielded (a) triacontane (13·6 g) m.p. 64°; MS M^+ *m/e* 422 showing a fragmentation pattern characteristic of long straight chains; and (b) sitosterol (0·5 g) identical in all respects with an authentic sample.

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Bark. A C_6H_6 extract of ground bark (183 g), on repeated chromatographic separation, yielded two compounds. (a) Simiarenol[4-10] (0·469 g), m.p. 209°; $[\alpha]_B^{25}$ +48° (*c* 2, $CHCL_3$); (Found: C, 84; H, 11·85. Calc. for $C_{30}H_{50}O$: C, 84·44; H, 11·8). The MS spectrum showed M^+ at *m/e* 426, base peak at *m/e* 274 suggesting a $\Delta^{4,5}$ double bond. The fragmentation pattern was very similar to those of hop-5-ene triterpenes. It gave a ketone upon chromic acid oxidation; m.p. 240°; $[\alpha]_B^{25}$ +28° (*c* 2, $CHCL_3$); MS M^+ at *m/e* 424, base peak at *m/e* 274. The acetate m.p. = 195°; $[\alpha]_B^{25}$ +65; M^+ at *m/e* 468, base peak at *m/e* 274. It formed a 2,4-dinitrophenylhydrazone, m.p. 273–274°. No authentic sample could be obtained for a m.m.p. (b) Sitosterol (1·6 g), identified by m.p. and m.m.p.

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ALCALOIDES INDOLIQUES DE *PANDACA MAURITIANA**

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Plante. Pandaca mauritiana (Poiret) appartient à ce que l'on appelle les "bois de lait" des îles Mascareignes. Ce sujet a fait l'objet d'une révision.[1] C'est un petit arbre de 3–5 m de haut, réduit à un arbuste en lisière de forêts et secrétant, quand on entaille l'écorce du tronc, un latex assez abondant d'où son nom vulgaire. On ne le trouve jamais en savane; assez courant à la Réunion et à l'Ile Maurice. Il fleurit de Novembre à Janvier suivant les stations et fructifie en Avril–Mai. *Source.* Ile de la Réunion; Museum d'Histoire Naturelle de Paris (Fred Lallemand, s.n.).

Ecorces de tiges. Extraites par Et_2O (Soxhlet) après alcalinisation par NH_4OH. Solution éthérée extraite par H_2SO_4 2%. Alcalinisation solution acide par NH_4OH. Extraction alcaloïdes totaux par l'Et_2O: Rdt: 18 g/kg. Chromatographie des alcaloïdes totaux sur alumine désactivée (AcOH). Alcaloïde amorphe élué par Et_2O (M^+ 672, SM); *vobasine* et *drégamine* sont éluées par l'Et_2O; les eauxmères de cristallisation de la drégamine contiennent la *tubotaïwine*. Les rendements respectifs sont, par rapport aux alcaloïdes totaux: (M^+

* Partie XV dans la série "Plantes Malgaches". Pour Partie XIV voir réf. 4.

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