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Chimica organica. — *Sesquiterpenes and phenolic compounds from* Vismia baccifera *(L) Tr. & Pl.* (*). Nota di FRANCO FERRARI, FRANCO DELLE MONACHE, GIOVANNI BATTISTA MARINI-BETTÒLO e PERRY MAXFIELD, presentata(**) dal Corrisp. G. B. MARINI-BETTÒLO.

RIASSUNTO. — Da una Guttifera tipica della zona Andina del Venezuela la *Vismia baccifera* (L.) Tr. & Pl., usata con il nome di *onotillo* quale colorante, sono state isolate due nuove sostanze giallo arancio il Vismione A e il Vismione B, delle quali sono state determinate le caratteristiche chimico fisiche.

Questi due composti sono accompagnati da una miscela di terpeni che sono stati identificati con il (—) copaene, il (+) β-selinene, il (—) isocariofillene, il (—) β-curcumene, il (—) α-curcumene e l'α-humulene.

La struttura del Vismione verrà riportata altrove.

Phenolic metabolites from the Guttiferae family include biflavones, arylcoumarins, neoflavonoids [1], and xanthones [2-3].

In spite of the fact that the Guttiferae family has been widely studied, no previous work has been reported on *Vismia* species.

Owing to their colouring matter, we have examined the berries of *Vismia baccifera* (L.) Tr. & PL.

The berries were extracted with hot $CHCl_3$. Evaporation of the solvent gave a dark orange grease, which was extracted with petrol ether. After concentration of petrol ether and overnight standing, orange crystals of Vismione A ($C_{23}H_{26}O_6$) separated. The mother liquor was chromatographed on silica and led to isolation of (—) copaene, (—) isocaryophyllene, (+) β-selinene, (—) β-curcumene, (—) α-curcumene, further Vismione A and Vismione B ($C_{21}H_{22}O_5$).

Definitive structure determination of Vismione A and B is in progress.

EXPERIMENTAL

The berries of *Vismia baccifera* (L.) Tr. & PL. (Guttiferae) were collected in the state of Merida (Venezuela). UV and IR spectra were determined in $CHCl_3$. NMR spectra ($CDCl_3$) were measured on a Varian EM 360 instrument and MS with AEI MS 12 spectrometers.

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(**) Nella seduta del 18 novembre 1977.

Extraction of Vismia baccifera (L.) *Tr.* & *PL.*

The berries (1 kg) were continuously extracted with hot $CHCl_3$ to give, after removal of solvent, a dark orange grease. The crude extract was then extracted with petrol ether and the insoluble fraction discarded. After concentration to a small volume and overnight standing, orange crystals of Vismione A (2 g) separated out. The mother liquors were chromatographed on Si gel. Copaene (150 mg), a mixture of isocaryophyllene and β-selinene (950 mg), β-curcumene (800 mg), humulene (40 mg) and ar-curcumene (200 mg) were subsequently eluted with heptane. Further elution with C_6H_6—EtOAc 9–1 gave Vismione A (0,5 g) and Vismione B (0,4 g). The mixture of isocaryophyllene and β-selinene was separated by column chromatography on Si-gel-$AgNO_3$ (4–1), eluting with C_6H_6—Me_2CO, 95–5.

Vismione A, m.p. 140–1 °C from heptane, $C_{23}H_{26}O_6$ (M^+ 398). $[\alpha]_D$ + 54 ($CHCl_3$) UV, λ_{max} nm (log ε): 245 (4.25), 298 (4.59), 335 sh (3.98), 410 (3.94). IR ν_{max} cm^{-1}: 3350, 1720, 1610, 1590. NMR (60 MHz); 16.0 (1 H, s), 10.0 (1 H, s), 6.7–6.6 (3 H, m), 6.4 (1 H, s), 3.88 (3 H, s), 3.26 (2 H, q, J16Hz), 2.95 (2 H, q, J18Hz), 2.5 (1 H, m), 1.84 (3 H, s), 1.63 (3 H, s), 1.10 (6 H, d, J 6.5 Hz).

Vismione B, m.p. 200–2 °C from C_6H_6—AcOEt, $C_{21}H_{22}O_5$ (M^+ 354). $[\alpha]_D$ + 24 ($CHCl_3$). UV, λ_{max} nm (log ε); 245 (4.15), 305 (4.42), 410 (3.85). IR, ν_{max} cm^{-1}: 3450, 1620, 1590. NMR (60 MHz); 14.7 (1 H, s), 6.72 (1 H, s), 6.63 (1 H, d, J 10 Hz), 6.43 (1 H, s), 5.53 (1 H, d, J 10 Hz), 3.87 (3 H, s), 3.0 (2 H, s), 2.8 (2 H, s), 1.8 (1 H, broad s), 1.5 (6 H, s), 1.42 (3 H, s).

(—) *Copaene.* $[\alpha]_D$, NMR, IR and MS similar to the literature [4].

(+) β *Selinene.* $[\alpha]_D$, NMR, IR similar to the literature [5].

(—) *Isocaryophyllene.* $[\alpha]_D$, NMR, IR similar to the literature [6].

(—) β *Curcumene.* $[\alpha]_D$, NMR, IR similar to the literature [7, 8].

(—) α *Curcumene.* (ar-Curcumene), $[\alpha]_D$, NMR, IR, MS similar to the literature [8, 9].

α-*Humulene.* NMR, IR, MS identical to an authentic sample [10].

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