

A NEW SESQUITERPENE FROM *PLUCHEA CHINGOYO*

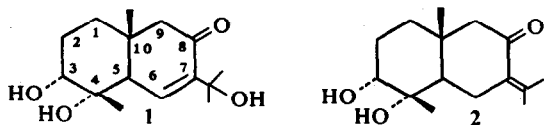
MARIA T. CHIANG*, MAGALIS BITTNER*, MARIO SILVA*, WILLIAM H. WATSON† and PETER G. SAMMES‡

* Laboratorio de Química de Productos Naturales, Departamento de Botánica, Instituto Central de Biología, Universidad de Concepción, Chile; † Fastbios Laboratory, Department of Chemistry, Texas Christian University, Fort Worth, TX 76129, U.S.A.; and ‡ Department of Chemistry, The City University, London, EC1V 4PB, U.K.

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The occurrence of sesquiterpene and sesquiterpene lactones has been reported [1–3] in various species of *Pluchea*. In the course of our studies on *Pluchea chingoyo*, we have isolated one new sesquiterpene. Plucheinol (1) $C_{15}H_{24}O_4$ showed bands typical of alcohol and ketone groups in its IR spectrum, and in its UV spectrum the presence of unsaturated groups. The MS showed an important peak at m/e 268 (M^+). In the 1H NMR spectrum this compound presented a triplet at δ 3.60 corresponding to a proton geminal to an equatorial OH group [4], a doublet at 7.1 (1H, $J = 2.5$ Hz) due to the proton at C-6 and a singlet at 1.45 (6H) due to the methyls at C-11. The chemical and spectroscopic information (Table 1) suggested that plucheinol was related to cuauhtemone, isolated from other species of *Pluchea* [2, 3]. Plucheinol has structure 1 determined by X-ray.



EXPERIMENTAL

Plant material. *P. chingoyo* D.C. was collected near Arica, I Region, Chile. The dried powdered stems and leaves (10 kg)

were extracted with aq. 50% MeOH. The MeOH extract was treated with $CHCl_3$ to give a dark green extract (40 g) which was chromatographed on alumina (grade I, 600 g) to yield the following components.

Cuauhtemone (2) (10 mg) eluted with C_6H_6 -EtOAc, mp 139–141° (MeOH); UV λ_{max}^{MeOH} nm: 254 (ϵ 7700); IR ν_{max}^{Nujol} cm^{-1} : 3560, 1676 and 1585; MS m/e : 252 (M^+) corresponding to $C_{15}H_{24}O_3$. Comparison of this sample with authentic cuauhtemone showed them to be identical.

Plucheinol (1) (20 mg) eluted with C_6H_6 -EtOAc, mp 86–88° (C_6H_6 -EtOAc); UV λ_{max}^{MeOH} nm: 243 (ϵ 6200); IR ν_{max}^{Nujol} cm^{-1} : 3350, 1680, 1250, 1190, 960, 925, 740. MS m/e (rel. int.): 268 (M^+), 252 (90), 235 (87), 217 (40), 193 (83), 175 (42), 149 (100), 123 (70), 43 (80).

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Table 1. 1H NMR spectral values (δ) of the sesquiterpene 1 isolated from *Pluchea chingoyo**

	C-1	C-2	C-3	Me	C-5	C-6	C-9	Me	Me
Cuauhtemone (2) $CDCl_3$	1.8, 1.2	1.8	3.6	1.22	2.0	2.9, 2.0	2.21	0.94	2.03, 1.84
Plucheinol (1) $CDCl_3$	1.2, 2.7	1.8	3.6	1.22	2.7	7.1	2.30	0.98	1.45, 1.45

* Measured in $CDCl_3$ with TMS as internal reference. The protons occurred as singlets except for those at C-2 (2H, d , $J = 2.5$ Hz), C-3 (1H, d), C-5 (1H, m) and C-6 (1H, d , $J = 2.0$ Hz).