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NOTE

Sesquiterpene Lactone and Triterpene from *Pulicaria laciniata*

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In the present note, an investigation on aerial parts of *Pulicaria laciniata* has been done. Two new compounds 10α,14*H*-i-epi univiscolide (**1**) and 3β-O-acyl lupeol ester (**2**) have been identified.

Key Words: Sesquiterpene lactone, Asteracees, Guaianolide, Lupeol, *Pulicaria laciniata*.

Pulicaria laciniata (Gaert), an endemic species of Algeria and Tunisia, flowering from April to July[1,2] was collected from the area of Batna in the east of Algeria in June 2001 and authenticated by Dr. Oudjehih Bachir (Agronomy Department, University of Batna, Algeria). No reports on the isolation of any secondary metabolite from *Pulicaria laciniata* are available to date. In continuation of our work on *Pulicaria laciniata* plant[3], we are investigating the aerial parts of the plant.

Air-dried leaves and flowers (1.5 kg) of *Pulicaria laciniata* were macerated in $CHCl_3$ at room temperature. After filtration, the filtrate was concentrated, resulting in 26 g of the chloroform extract. A portion of this extract (10 g) was subjected to chromatography on a 230-400 mesh silica gel column performed by petoleum ether whose polarity was gradually increased by addition of ethyl acetate. Twelve fractions were recovered. All the fractions obtained from this column are complex mixtures. The fraction 4 (143.4 mg) revealing prevalent products was again repeatedly treated by chromatography on a silica gel column eluted by petroleum ether-ethyl acetate mixtures (95-5, 90-10, 85-15, 80-20) and finally purified on TLC (petroleum ether-ethyl acetate 80-20) gave two compounds, 10α,14*H*-i-epi univiscolide (**1**) (3 mg) and stigmasterol (2.5 mg). The similar experiment was eluted on the fraction 10 (640 mg) which gave stigmasterol (5 mg) and 3β-O-acyl lupeol ester (**2**) (3 mg).

The positive EIMS spectrum of compound **1** showed a molecular ion at m/z = 250 which corresponds to the formula $C_{15}H_{22}O_3$ for this compound. The ion at m/z = 232 $[M– H_1O]^+$. In the same spectrum, suggests that this compound contains an hydroxyl group.

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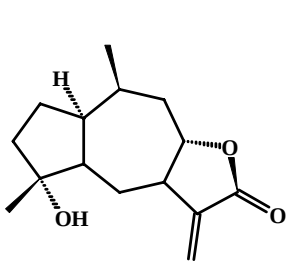
The positive EIMS spectrum of compound **2** showed a molecular ion at m/z = 708.5 which corresponds to the formula $C_{48}H_{84}O_3$ for this compound. The ion at m/z = 690.5 $[M–H_2O]^+$. In the same spectrum, suggests that this compound contains an acyl group.

The results of these experimentals procedures are two compounds guaianolide (**1**) (3 mg) and lupeol (**2**) (3 mg).

(**1**) Isoleted as white powder exhibited the following ^{13}C (100.6 MHz, $CDCl_3$) resonances: 36.25 (C1), 22.13 (C2), 23.97 (C3), 79.98 (C4), 59.60 (C5), 32.12 (C6), 37.48 (C7), 80.28 (C8), 35.08 (C9), 34.00 (C10), 140.01 (C11), 171.11 (C12), 121.10 (C13), 15.34 (C14), 16.98 (C15).

(**2**) Isolated as a viscous coulourless oil (turning to white solid after some time) exhibited the following ^{13}C (100.6 MHz) in $CDCl_3$ resonances : 37.69 (C1), 23.72 (C2), 80.52 (C3), 38.38 (C4), 55.39 (C5), 18.17 (C6), 34.15 (C7), 40.93 (C8), 49.89 (C9), 37.02 (C10), 20.86 (C11), 25.16 (C12), 37.22 (C13), 42.74 (C14), 27.41 (C15), 34.85 (C16), 42.82 (C17), 47.67 (C18), 47.61 (C19), 149.97 (C20), 29.87 (C21), 37.83 (C22), 27.95 (C23), 15.97 (C24), 16.55 (C25), 16.17 (C26), 14.13 (C27), 17.90 (C28), 109.84 (C29), 19.29 (C30), 173.73 (C'1), 65.03 (C'3).

After separation and purification by chromatographic methods the chloroform soluble part of the extract afforded beside the already known substances guaianolide 4α,5α-epoxy-10α-14*H*-inuviscolide (**3**), pseudo gauianolide (**4**)[4-9] β-sitosterol, β-sitosterol ester and stigmasterol 2 new compounds for the genus *Pulicaria*, 10α,14*H*--i-epi-univiscolide (**1**)[10] and 3β-O-acyl-lupeol ester (**2**)[11].



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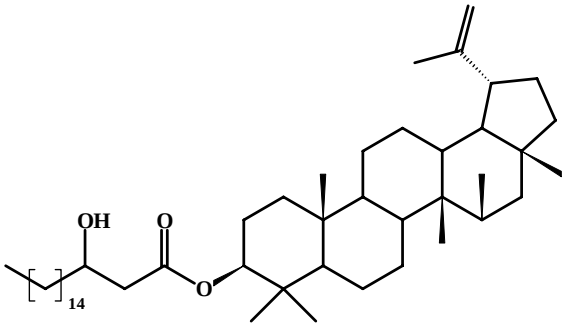

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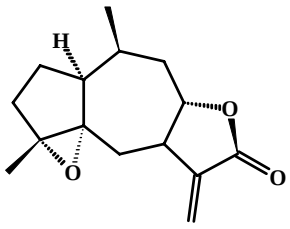

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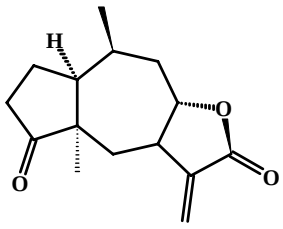

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