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# A SECOIRIDOID GLUCOSIDE FROM *JASMINUM ODORATISSIMUM*

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**Key Word Index**—*Jasminum odoratissimum*; Oleaceae; secoiridoid glucoside; 10-acetoxyoleoside dimethyl ester; 10-hydroxyoleoside dimethyl ester.

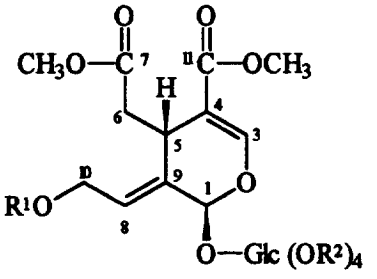
**Abstract**—A new secoiridoid glucoside, 10-acetoxyoleoside dimethyl ester, together with the known 10-hydroxyoleoside dimethyl ester was isolated from leaves of *Jasminum odoratissimum*. The structures of these compounds have been characterized on the basis of spectroscopic evidence.

## INTRODUCTION

A great number of secoiridoids have been isolated from species of the family Oleaceae [1]. In this communication we report on the isolation and structural elucidation of 10-acetoxyoleoside dimethyl ester (**1**), a secoiridoid glycoside, which is described for the first time along with 10-hydroxyoleoside dimethyl ester (**2**), previously isolated from *Osmanthus asiaticus* [2]. We also include the spectroscopic data for this latter compound, which has not hitherto been reported.

## RESULTS AND DISCUSSION

From the ethanolic extract of leaves of *Jasminum odoratissimum* L, a species endemic to the Canary Islands [3], the secoiridoid glycoside **1** was isolated as an optically active syrupy oil, $[\alpha]_D^{25}$ −196.3 ($CHCl_3$). The FAB mass spectrum of **1** shows $[M+H]^+$ at *m/z* 477. The HR mass spectrum presents the molecular ion at *m/z* 296.0891 $[M-Glc]^+$, which is in agreement with the formula $C_{14}H_{16}O_7$ (calc. 296.0896). The $^1H$ NMR spectra of **1** and **2** are similar, the differences being an additional signal at $\delta$ 2.05 assignable to an acetate group and the downfield shift of the signal of the C-10 methylene group from $\delta$ 4.15 to 4.68 in the spectrum of the former compound. The $^{13}C$ NMR spectrum of **1** shows two signals at $\delta$ 20.78 and 171.04, corresponding to an acetoxy group. Acetylation of both **1** and **2** yielded the same acetate (**3**) which was identified by direct comparison with authentic samples as well as by the mass spectrum, and $^1H$ and $^{13}C$ NMR spectra [4].



**1** $R^1$ = Ac $R^2$ = H
**2** $R^1$ = $R^2$ = H
**3** $R^1$ = $R^2$ = Ac

## EXPERIMENTAL

$^1H$ and $^{13}C$ NMR: 400 and 100 MHz, respectively. Chemical shifts are given relative to TMS as int. standard ($\delta$ scale). MS: 70 eV.

*Extraction and isolation.* Fresh leaves of *J. odoratissimum* (0.6 kg) were collected in September 1994, in San Andrés (Tenerife, Canary Islands). A voucher specimen is deposited at the Herbarium of the Department of Botany, Faculty of Biology, University of La Laguna (TFC31748). Air-dried leaves (380 g) were ground to a fine powder and extracted in a Soxhlet apparatus with EtOH. The extract was concd and chromatographed on silica gel, using *n*-hexane with gradually increasing proportions of EtOAc as eluent, to give **1** (250 mg) and **2** (40 mg).

*10-Acetoxyoleoside dimethyl ester* (**1**). $^1H$ NMR ($CDCl_3$): $\delta$ 2.05 (3H, *s*, OCOMe), 2.43 (1H, *dd*, *J* = 14.6, 9.4 Hz, $H_A$-6), 2.83 (1H, *dd*, *J* = 14.6, 4.0 Hz, $H_B$-6), 3.40–3.70 (2H, *m*, H-2′, H-5′), 3.65 (3H, *s*, OMe), 3.72 (3H, *s*, OMe), 3.80 (2H, *m*, H-6′), 3.98 (1H, *dd*, *J* = 9.4, 4.0 Hz, H-5), 4.68 (1H, *m*, $H_A$-10), 4.78 (1H, *dd*, *J* = 13.2, 6.5 Hz, $H_B$-10), 4.85 (1H, *d*,

$J = 7.5$ Hz, H-1′), 5.81 (1H, *s*, H-1), 6.11 (1H, *t*, $J = 6.5$ Hz, H-8), 7.49 (1H, *s*, H-3); $^{13}$C NMR ($CDCl_3$): $\delta$ 20.78 (OCO-$\underline{C}H_3$), 31.10 (C-5), 39.99 (C-6), 51.55 (OMe), 51.86 (OMe), 60.54 (C-10), 61.42 (C-6′), 69.53 (C-4′), 73.03 (C-2′), 76.07 (C-3′, C-5′), 93.57 (C-1), 99.79 (C-1′), 107.94 (C-4), 123.45 (C-8), 132.13 (C-9), 153.41 (C-3), 166.36 (C-11), 171.04 (O$\underline{C}$-$OCH_3$), 171.54 (C-7).

10-*Hydroxyoleoside dimethyl ester* (**2**). $^1$H NMR ($CD_3OD$): $\delta$ 2.46 (1H, *dd*, $J = 14.8$, 9.5 Hz, $H_A$-6), 2.79 (1H, *dd*, $J = 14.8$, 4.2 Hz, $H_B$-6), 3.22–342 (2H, *m*, H-2′, H-5′), 3.61 (3H, *s*, OMe), 3.64 (1H, *m*, H-5), 3.67 (3H, *s*, OMe), 3.85 (1H, *d*, $J = 10.0$ Hz, $H_A$-6′), 3.91 (1H, *dd*, $J = 10.0$, 4.2 Hz, $H_B$-6′), 4.15 (1H, *ddd*, $J = 13.5$, 5.7, 1.4 Hz, $H_A$-10), 4.28 (1H, *dd*, $J = 13.5$, 7.0 Hz, $H_B$-10), 4.78 (1H, *d*, $J = 7.5$ Hz, H-1′), 5.91 (1H, *s*, H-1), 6.12 (1H, *dd*, $J = 7.0$, 5.7 Hz, H-8), 7.49 (1H, *s*, H-3). $^{13}$C NMR ($CDCl_3$): $\delta$ 32.31 (C-5), 40.96 (C-6), 52.00 (OMe), 52.31 (OMe), 59.12 (C-10), 62.65 (C-6′), 68.43 (C-11), 71.38 (C-4′), 74.67 (C-2′), 77.83 (C-5′), 78.34 (C-3′), 94.60 (C-1), 100.90 (C-1′), 109.17 (C-4), 129.43 (C-8), 130.92 (C-9), 155.04 (C-3), 173.47 (C-7).

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