200); 312 (M-200 + 18).] Acetylation of the mono-ester produced a compound identical by TLC and MS to *ester A*. Hydrolysis in $Ba(OH)_2$ followed by methylation and GLC[8] confirmed the presence of dodecanoic acid.

Ester B: 12-*deoxy*-4β*OH*-*phorbol*-13-*dodecenoate*-20-*acetate*. Resin B (5 mg: R_f value 0·75, orange by UV as before) was isolated from *E. fortissima* latex. The NMR spectrum as before suggested the presence of acetic and dodecenoic acids as esterifying moieties at C-20 and C-13 of (**1**). In the MS the resin had an M^+ ion at *m/e* 570 (M^+ $C_{34}H_{50}O_7$) and fragment ions at *m/e* 510 (M-60); 494 (M-60 + 18); 372 (M-198); 312 (M-198 + 60); 294 (M-198 + 60 + 18). Transesterification produced a mono-ester [M^+ $C_{32}H_{48}O_6$, at *m/e* 528 and fragment ions by MS at *m/e* 510 (M-18); 492 (M-36); 330 (M-198); 312 (M-198 + 18]. Acetylation of the mono-ester produced *ester B*. After complete hydrolysis dodecenoic acid was identified by GLC as before.

Ester C: 12-*deoxy*-4β*OH*-*phorbol*-13-*octenoate*-20-*acetate*. This ester (1·5 mg) was isolated from *E. polyacantha* (R_f value 0·72, orange by UV as before). It exhibited a molecular ion in the MS at *m/e* 514 (M^+ $C_{30}H_{42}O_7$) and fragment ions at *m/e* 372 (M-142); *m/e* 454 (M-60); *m/e* 312 (M-60 + 142); *m/e* 294 (M-60 + 142 + 18). Transesterification produced a mono-ester. (MS exhibited M^+ at *m/e* 472, $C_{28}H_{40}O_6$, and fragment ions at *m/e* 454 (M-18); 436 (M-36); 330 (M-142). Octenoic acid was identified by GLC after hydrolysis. Acetylation of the mono-ester produced *ester C*.

For *esters B* and *C* no attempt was made to assign the position of the double bond in the side chain. From a chemotaxonomic point of view it was of interest to note that these three succulent *Euphorbia* species, which are indigenous to Africa, all contained esters of the same parent alcohol (**1**).

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DITERPENES FROM THREE *SIDERITIS* SPECIES*

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Key Word Index—*Sideritis chamaedryfolia*; *S. hyssopifolia*; *S. luteola*; Labiatae; *ent*-15-kaurene and *ent*-16-kaurene derivatives.

Plants. Sideritis chamaedryfolia Cav., *Sideritis hyssopifolia* L. and *Sideritis luteola* Font Quer. *Sources.* Near Villena (Alicante), Puerto de Pajares (León) and Sierra de Filabres (Almeria),

* Part 24 in the series *Constituents of* Sideritis. For part 23 see Von Carstenn-Lichterfelde, C., Panizo, F. M., Quesada, T. G., Rodriguez, B., Valverde, S., Ayer, W. A. and Ball, J-A. H. *Can. J. Chem.* (in press).

respectively. *Previous work. S. chamaedryfolia* and *S. luteola* none; *S. hyssopifolia* studies of the essential oil [1]. *Present work.* The diterpene constituents of the three species quoted above have been investigated.† *S. chamaedryfolia* yield two compounds previously described: *ent*-15-kaurene-7α,18-diol (sideridiol) [2] and *ent*-16-kaurene-3β,7α,18-triol (foliol) [3]. *S. hyssopifolia* gave only a known diterpene: *ent*-7α-acetoxy-15-kauren-18-ol (siderol) [2]. Finally *S. luteola* gave three diterpenic compounds also known: *ent*-16-kaurene-3β,7α,18-triol (foliol), *ent*-3β-acetoxy-16-kaurene-7α,18-diol (sidol) and *ent*-18-acetoxy-16-kaurene-3β,7α-diol (linearol) [3].

All compounds as well as their acetylated derivatives have been characterized by their physical and spectroscopic (IR, NMR and MS) data and by comparison with authentic samples.

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† For general details on extraction and separation of diterpenes from *Sideritis* see Von Carstenn-Lichterfelde, C., Valverde, S. and Rodriguez, B. (1974) *Aust. J. Chem.* **27**, 517.

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BENZYLISOQUINOLINES FROM *OCOTEA* SPECIES*

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Key Word Index—*Ocotea macrophylla*; *Ocotea* sp.; Lauraceae; aporphines; dehydroaporphine; benzylisoquinolines.

Plant. Ocotea macrophylla H.B.K., trivial name "louro fôfo", a tree, was collected at Ducke Forest Reserve, near Manaus, and identified by the botanist W. Rodrigues upon comparison of a voucher specimen (42226) with specimen 14721, both deposited at Instituto Nacional de Pesquisas da Amazônia, Manaus, Amazonas.

Trunk wood (1·4 kg). A C_6H_6 ext. was crystallized from C_6H_6 to crude nantenine (16 g) which was chromatographed on a silica column. Elution with C_6H_6 gave, in order, fatty esters (1 g), dehydronantenine (800 mg), sitosterol (1 g) and (+)-nantenine (8 g). Elution with C_6H_6–AcOEt 1:1 gave a mixture (3 g). This was chromatographed on an alumina column. Elution with C_6H_6 gave dehydronantenine (50 mg), (+)-nantenine (1 g) and a mixture (150 mg). This was separated by TLC on alumina (C_6H_6–AcOEt 8:2) into (+)-isocoridine (50 mg) and (+)-glaucine (40 mg). Identities were

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