(40 l.) and the extract concentrated *in vacuo* below 50°. The syrupy material obtained was extracted successively with C_6H_6 (6 l.), EtOAc (6 l.) and *n*-BuOH (4 l.). C_6H_6 and EtOAc fraction gave compounds reported earlier[1,2] and also tetramethylellagic acid (10% EtOAc in C_6H_6) and epioleonolic acid (20% EtOAc in C_6H_6). *n*-BuOH extract was freed of the solvent and the residue treated with Me_2CO. Me_2CO soluble fraction gave **1** while Me_2CO insoluble part afforded ellagic acid.

Genkwanin 4′-galactoside (**1**). Me_2CO soluble part of the *n*-BuOH extract, deposited a solid which was recrystallized from EtOH (Found: C, 58·70; H, 5·20. $C_{22}H_{22}O_{10}$ requires: C, 59·10; H, 4·91%). Acid hydrolysis and extraction with Et_2O afforded genkwanin, m.p. 267° (3 crystallization gave m.p. 280°) (Found: C, 67·10; H, 4·30. $C_{16}H_{12}O_5$ requires: C, 67·60; H, 4·20%).

Diacetate. M.p. 204° (Found: C, 64·10; H, 4·10. $C_{20}H_{16}O_7$ requires: C, 64·60; H, 4·30%). The aq. hydrolysis soln was neutralized ($BaCO_3$) and PC indicated that the only sugar present was galactose.

Ellagic acid. The Me_2CO insoluble fraction from the *n*-BuOH extract was extracted (Soxhlet) with hot Me_2CO. Concentration and standing in the cold furnished a yellow solid. This on recrystallization gave yellow needles, m.p. >360° (Found: C, 56·10; H, 2·10. $C_{14}H_6O_8$ requires: C, 56·60; H, 1·98%).

Tetramethyl ellagic acid. Obtained as needles when crystallized from MeOH and dioxane m.p. 340° (Found: C, 59·80; H 4·20. $C_{18}H_{14}O_8$ required: C, 60·33; H, 3·91%).

Epioleonolic acid. Crystallized from MeOH, m.p. 302° (Found: C, 78·50; H, 9·86. $C_{30}H_{48}O_3$ requires: C, 78·94; H, 9·86%).

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ACORENONE-B IN *ANGELICA LUCIDA* OIL

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Key Word Index—*Angelica lucida*; Umbelliferae; common name?; essential oil; acorenone B; mono- and sesquiterpenes.

Plant. Angelica lucida L. (≡ *Coelopleurum actaeifolium* (Michx.) Coult. & Rose, *Archangelica gmelini* (specimen retained in Herbarium at University of Waterloo, NA 5422). *Source.* Blue Rocks, Lunenburg, Nova Scotia, Canada. *Uses.* Tender parts of plant used as food and tonic[1] by Eskimos.

Present work. The dried seeds were water distilled to yield 0·15% essential oil. The oil, which was analysed by a combination of techniques described previously[2] was found to contain acorenone-B (43·1%), β-phellandrene (16·1%), myrcene (8·0%), caryophyllene (7·5%), α-pinene (2·0%), phenyl ethyl isovalerate (2·0%), bornyl acetate (1·6%), benzyl isovalerate (1·1%), camphene (0·3%), β-pinene (0·2%) and sabinene (0·2%).

Comment. Acorenone B, which was recently isolated from *Bothriochloa intermedia* (R.Br.) A. Camus (Gramineae) and synthesized,[3] was found to be identical to acorenone previously isolated from *Acorus calamus* L. (Araceae).[4]

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