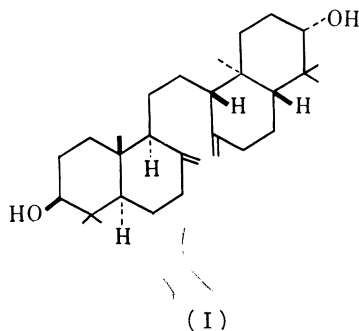

 Communications to the Editor

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Isolation of α -Onocerin from *Lycopodium clavatum* LINN.

A triterpenoid-like substance was separated from the chloroform extract of the leaves and stems of *Lycopodium clavatum* LINN. (Lycopodiaceae), distributed at Mt. Nyū-gasa, Nagano, Japan. The acetylation product was purified by chromatography on alumina and recrystallization from ethanol-benzene to give a diacetate, $C_{34}H_{54}O_4$, m.p. $227\sim 229^\circ$ (corr.), $[\alpha]_D^{15} : +29.0\pm 1.0^\circ$ (in $CHCl_3$, $c=1.00$), IR: $\nu_{max}^{KBr} cm^{-1} : 1730, 1371, 1268, 1026$ (acetoxy); 3125, 1645, 879 (exocyclic methylene), (Anal. Calcd: C, 77.52; H, 10.33. Found: C, 77.59; H, 10.32), in the yield of more than 1.0% of dried plant material. Hydrolysis of the diacetate and recrystallization from methanol-tetrahydrofuran gave a diol, $C_{30}H_{50}O_2$, m.p. $206.5\sim 208^\circ$ (corr.), $[\alpha]_D^{15} : +17.0\pm 2.0^\circ$ (in $CHCl_3$, $c=0.25$), IR: $\nu_{max}^{KBr} cm^{-1} : 3390, 1032$ (hydroxyl); 3085, 1642, 885 (exocyclic methylene), (Anal. Calcd: C, 81.39; H, 11.38. Found: C, 81.26; H, 11.23). These physical constants were very similar to those of α -onocerin (α -onoceradienediol) (I).¹⁾ By the direct comparison of diol with an authentic sample, the diol was proved to be identical with α -onocerin. The catalytic reduction of diacetate and chromic oxidation of diol were also examined.



α -Onocerin is a triterpenoid, that has a very novel structure, and has been isolated from the roots of *Ononis spinosa* LINN. (Leguminosae).²⁾ This is the first example of the triterpenoid of the established structure isolated from the fern plants.

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1) D.H.R. Barton, K.H. Overton: J. Chem. Soc., 1955, 2639.
2) H. Hlasiwetz: J. prakt. Chem., 65, 419 (1855).