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PINOCEMBRIN AND (+)-β-EUDESMOL FROM *HYMENOCLEA MONOGYRA* AND *BACCHARIS GLUTINOSA*

MASAKAZU MIYAKADO,* TOSHIRO KATO,* NOBUO OHNO* and TOM J. MABRY†

*Pesticide Department, Institute for Biological Science, Sumitomo Chemical Company Ltd., Takarazuka, Hyogo, Japan; †Cell Research Institute and Department of Botany, University of Texas at Austin, TX 78712, U.S.A.

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Key Word Index—*Hymenoclea monogyra*; *Baccharis glutinosa*; Compositae; pinocembrin; (+)-β-eudesmol; *Alternalia* fungi; antimicrobial activity.

Pinocembrin (5,7-dihydroxyflavanone) has been obtained from *Hymenoclea monogyra* and *Baccharis glutinosa* and (+)-β-eudesmol also obtained from *H. monogyra*. Pinocembrin has been previously isolated mainly from the family Pinaceae [1]; this is the first report of its isolation from members of the Compositae. (+)-β-Eudesmol has already been obtained from *Eucalyptus* oil [2] and other plants but its isolation from *Hymenoclea monogyra* species has not yet been reported.

Pinocembrin and (+)-β-eudesmol [3] show considerable anti-microbial activity to *Alternalia* fungi.

EXPERIMENTAL

Plants and source. Hymenoclea monogyra Torr and Gray was collected April 10, 1973 by R. Hartmen (No. 1140) near La Paz, Baja California Sur, Mexico and *Baccharis glutinosa* (R. & P.) Pers. was collected by M. D. Whalen (No. 68) October 21, 1974 near Coyame, Chihuahua, Mexico; vouchers of both species are deposited in the University of Texas Herbarium (TX). *H. monogyra*. 200 g dried ground plant material were extracted with $CHCl_3$. Chromatography of the crude extract (6.95 g) on Si gel using a gradient from $CHCl_3$ to 10% MeOH–$CHCl_3$ yielded two components. The first component was (+)-β-eudesmol [$C_{15}H_{26}O$, mp 81°, M^+ 222, $[\alpha]_D^{22.5}$ + 61.5° (*c*, 0.4, $CHCl_3$)] which was identical in all respects with authentic material (mmp, NMR, IR and $[\alpha]_D$) [4]. The second component was pinocembrin (5,7-dihydroxyflavanone) ($C_{15}H_{12}O_4$, mp 193–196° (decomp.), M^+ 256) which was identical in all respects with synthetic material (UV, NMR and MS) [5–8]. *B. glutinosa*. Pinocembrin was also isolated from *B. glutinosa* by chromatography of the $CHCl_3$ crude extract on Si gel using 2% MeOH–$CHCl_3$. The inhibitory values of pinocembrin at 100 ppm to *Alternalia mali*, *A. kikuchiana* and *A. brassicicola* were 57, 47 and 39% and those of (+)-β-eudesmol to the same organisms were 57, 38 and 64%, respectively. The method of testing was as follows: the compound in MeOH was added to a potato sucrose agar medium held at 45–55° to give the desired concentration. After 10 ml of the media was poured into a 9 cm petri dish, 5 mm mycelial discs of each fungus were placed on the agar plate and cultured at 27°. The diameter of mycelial colony was measured after 5 days. The inhibitory values were calculated by comparison with a control.

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METHYLRIPARIOCHROMENE A FROM *STEVIA SERRATA*

HIROSHI KOHDA, KAZUO YAMAZAKI, and OSAMU TANAKA

Institute of Pharmaceutical Sciences, Hiroshima University School of Medicine, Kasumi 1-2-3, Hiroshima-shi, Japan

and

KOZABURO NISHI

Kasukabe Experimental Station of Medicinal Plants, National Institute of Hygienic Sciences, Kasukabe, Kasukabe-shi, Saitama-ken, Japan

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Plant. Stevia serrata Cav. *Source.* The seeds supplied by Ente Giadini Botanici Vila Taranto, 28048 Pallanza (Lago Maggiore Italia) (Catalogo dei Semi 1971–1972 No. 2389) were sown in October, 1971 and cultivated at this Experimental Station. The aerial parts were harvested in July, 1973. *Previous work.* Christinine (sesquiterpene lactone) [1].

Present work. The MeOH extract of the dried leaves (10 g) was suspended in H_2O and extracted with Et_2O. The ethereal layer was concentrated to dryness and the