

hordenine was identified by comparison (uv, pmr, tlc) with a commercial and a previously isolated sample (2), while *N*-methyl-4-methoxyphenethylamine was identified by comparison with an authentic sample synthesized (3) from commercial *O*-methyltyramine (uv, pmr, ms, tlc).

The alkaloid-containing species are spread over several of the subgenera (4) in this very complex genus. Those species that do not contain alkaloids (1) are all members of subgenus *Flava*, and hence, lack of alkaloids may be of value in the chemosystematics of *Eriogonum*.

Full details of the isolation and identification of the compounds are available on request to the senior author.

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A TERPENEHYDROQUINONE FROM THE MARINE ASCIDIAN *APLIDIUM CONSTELLATUM*¹

N.M. TARGETT and W.S. KEERAN

Skidaway Institute of Oceanography, P.O. Box 13687, Savannah, Georgia 31416

Terpene hydroquinones have been isolated from a broad spectrum of marine organisms including algae (1-3), ascidians (4,5), octocorals (6), and sponges (7,8). Pharmacologically, these compounds demonstrate activity as anticancer agents providing protection from leukemia and tumor development in test animals (5) and drastically reducing the mutagenic effects of the carcinogens benzo(a)-pyrene and aflatoxin B₁ (4). In our search for compounds of potential pharmacological or agricultural interest, we isolated a terpene hydroquinone derivative, 2-methyl-2-(4-methylpent-3-enyl)-2H-chromen-6-ol from the colonial tunicate *Aplidium constellatum* Verrill. The organism was collected in Georgia coastal waters and was authenticated with the help of the Georgia Department of Natural Resources, Brunswick, Georgia (9). A voucher specimen on deposit at the Skidaway Institute of Oceanography.

The structure was deduced from uv, nmr, and mass spectral data. This compound has previously been reported from the native tropical American tree *Cordia alliodora* Ruiz. and Pav. (Boraginaceae) whose wood is recognized for its durability in marine uses (10). Other chromenols chemically related to 2-methyl-2-(4-methylpent-3-enyl)-2H-chromen-6-ol have been isolated from terrestrial sources (11, 12). The terrestrial compounds have antiallotropic activity and are thought to function in chemical defense. Their role in marine organisms is not known. Full details of the isolation and identification of 2-methyl-2-(4-methylpent-3-enyl)-2H-chromen-6-ol from *A. constellatum* are available upon request.

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FURANOCOUMARINS FROM *MAQUIRA CALOPHYLLA*

JOAN M. ROVINSKI and ALBERT T. SNEDEN*

Department of Chemistry, Virginia Commonwealth University, Richmond, VA 23284

Fractionation of an ethanolic extract of *Maquira calophylla* (P. & E.) C.C. Berg (Moraceae) for cytotoxic constituents yielded three known coumarins, marmesin, oxypeucedanin hydrate, and pranferol, from noncytotoxic fractions. Although these coumarins have been isolated from other genera of the Moraceae family (1), this is the first report of their isolation from a *Maquira* species.

EXPERIMENTAL

PLANT MATERIAL.—Stem bark of *M. calophylla* (B805592, PR46135) was collected in Peru in December 1975, and authenticated by the Medicinal Plant Resources Laboratory, USDA, Beltsville, MD, through which voucher specimens are preserved.

EXTRACTION AND ISOLATION.—The dried, ground stem bark (10.6 kg) of *M. calophylla* was extracted and worked up by standard procedures (2). The coumarins obtained after several chromatographic steps were marmesin (60 mg), oxypeucedanin hydrate (14 mg), and pranferol (39 mg). Identification of the coumarins was achieved by comparison with reported spectral data (ir, pmr, uv, ms), by comparison with authentic samples (tlc, mmp), and by chemical conversions to known compounds (1-5).

Details of the isolation and structure elucidation may be obtained upon request to the senior author.

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