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SECONDARY METABOLITES OF THE LEAVES OF *Cinnamomum kanehirai*

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Cinnamomum kanehirai Hayata (Lauraceae), a unique and native tree of Taiwan, is the major host for the medicinal fungus *Antrodia cinnamomea*, which exhibits anti-cancer activity [1]. In the course of screening for biologically and chemically novel agents from Formosan Lauraceous plants [2], *C. kanehirai* Hayata was chosen for further phytochemical investigation. It grows in the mountains at an altitude of about 450–2000 m around the broad-leaved forests in Taiwan. In traditional Chinese medicine, it is claimed to be beneficial to clear the lungs, dispel apathy, and calm nervous depression. People hew this tree to harvest or cultivate its infected fungus, *A. cinnamomea*, for treatment of disease in folk medicine. Growing evidences show that extracts, fermented products, or compounds isolated from *A. cinnamomea* possess growth inhibitory activity against various types of cancers [1]. Other than its infected fungus, *A. cinnamomea*, little is known about this plant. The leaves of this plant are also being studied and published for the first time. The MeOH extract of its leaves was subjected to solvent partitioning and chromatographic separation to afford eight pure substances.

The leaves of *Cinnamomum kanehirai* Hayata were collected from Kaohsiung City, Taiwan in June 2011. Plant material was identified by Dr. Fu-Yuan Lu (Department of Forestry and Natural Resources, College of Agriculture, National Chiayi University). A voucher specimen (Cinnamo. 10) was deposited in the School of Medical and Health Sciences, Fooyin University, Kaohsiung, Taiwan. The air-dried leaves of *C. kanehirai* (0.4 kg) were extracted with MeOH (2 L × 5) at room temperature, and a MeOH extract (24.1 g) was obtained upon concentration under reduced pressure. The residue was placed on a silica gel column and eluted with CH_2Cl_2 gradually enriched with MeOH to afford three fractions. Fraction 1 (2.23 g) eluted with *n*-hexane–acetone (40:1) was further purified by silica gel column chromatography using the same solvent system to obtain coumarin [2] (4 mg), isoscopoletin [3] (2 mg), and scopoletin [4] (8 mg). Fraction 2 (4.67 g) eluted with *n*-hexane–acetone (30:1) was further separated using silica gel column chromatography and purified by preparative TLC (thin-layer chromatography) to yield β-sitostenone [5] (16 mg) and β-sitosterol [5] (75 mg). Fraction 3 (2.13 g) was purified by silica gel chromatography (CH_2Cl_2–MeOH, 25:1) to give (+)-yangambin [6] (2 mg), (+)-syringaresinol [7] (9 mg), and (+)-sesamin [8] (13 mg). These compounds were obtained and characterized by comparison of their physical and spectral data with values obtained in the literature. All of these compounds were found for the first time from this plant.

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