〔Shoyakugaku Zasshi, **45**, 93-98 (1991)〕 [Lab. of Herbal Gerden]

Pharmacognostical Studies of Plantaginis Herba (8) Morphological and Histological Studies on the Roots of *Plantago* spp. from China.

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The roots of 17 plants of the Plantago genus from China, *i.e. P. asiatica, P. hostifolia, P. major, P. jehohlensis, P. himalaica, P. erosa, P. depressa, P. depressa* var. *montana, P. camtschatica, P. maritima* var. *salsa, P. virginica, P. lessingii, P. minuta, P. lanceolata, P. media, P. aristata, P. indica,* were studied histotaxonomically. We found that these species may be histologically distinguished from each other by the characteristics of the structures of the pith and cork-layer, and by the presence or absence of the endodermal cells having some daughter cells. These results will be useful for the indentification of the plant origin of Plantaginis Herba.

〔Shoyakugaku Zasshi, **45**, 327-332 (1991)〕 [Lab. of Herbal Gerden]

Phenylethanoid Glycosides in the Fruits of *Forsythia* Spp.

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Fruit of *Forsythia* spp. contain four phenylethanoid glycoside (FOR), suspesaside (SUS), acteoside (ACT) and β-hidroxyacteoside (β-hydroxyACT). In this paper, these phenylethanoid glycoside contents of the fruits of eight species of *Forsythia* were determined by HPLC. Then, by using this method the fruits of the three original plants of Forsythiae Fructus listed in JP XII, were analyzed. *Forsythia koreana* fruits contained FOR, SUS, ACT and β-hydroxyACT. Young *F. suspensa* fruits contained FOR, SUS and ACT, whereas mature ones contained SUS, a decreased amount of FOR and no ACT. *F. viridissima* fruits contained neither FOR nor SUS. These results may be useful for the identification of the origins of commercial samples of the crude drug and of its dried extracts.

〔Mutation Research, **262**, 267-274 (1991)〕 [Radioisotope Lab.]

Absence of mutagenic action of 5β-cholan-24-oic acid derivatives in the bacterial fluctuation and standard Ames tests.

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Publihsed data on the mutagenicity of 3 bile acids in the bacterial fluctuation test are conflicting. Eleven 5β-cholanoic acids including 2 of the bile acids were assayed for mutagenicity in *S. typhimurium* TA98 and TA100 in the fluctuation tests. In any of these bile acids, there were no statistically significant increases in mutagenicity compared with appropriate controls. Similarly, none of these compounds showed positive mutagenicity in the standard Ames test. Our results support the claim that 3 bile acids are not mutagenic, and indicate that the initiation activity of 5β-cholanoic acids is not demonstrable with a short-term assay using Sallmonella strains.