

[Shoyakugaku Zasshi, 47, 356-366 (1993)]

[Lab. of Herbal Garden]

Pharmacognostical Studies of Plantaginis Herba (11) On the Morphology of the Leaf Epidermis of Chinese and Japanese *Plantago* spp..

TOSHIHORO TANAKA*, ZHENG TAIKUN, ATSUKO KATO, MASASHI YOSHIDA, EIJI SAKAI

Studies of epidermal morphology and the measurements of palisade ratio, stomatal indices and vein-islet numbers were done on about 17 Chinese and Japanese *Plantago* plants. The stomata of *Plantago* plants of both countries were shown to be of anisocytic type, anomocytic type or diacytic type. Differences were seen in the type and frequency of the stoma. The glandular hairs having two cell heads were observed in many species. A few species had hairs of multicellular head. Unicellular non-glandular hair and multicellular segmentation hair were also observed. For the identification of the species, the key was established by the main characteristics.

[Shoyakugaku Zasshi, 47, 388-395 (1993)]

[Lab. of Herbal Garden]

Pharmacognostical Studies of *Apocynum* (2) Comparative Anatomy of the Leaves of *Apocynum* and *Poacynum* spp..

TOSHIHIRO TANAKA*, EIJI SAKAI, SHINZOU YOSHIMI, SANSEI NISHIBE,
HITOSHI TAKEMURA

Leaves of *Apocynum venetum* L. (Apocynaceae) have been used for hypertension in China. *Poacynum* species (Apocynaceae) distributed in China are closely related to *Apocynum* species. In the present work, to establish a method for microscopic identification, comparative anatomical studies of the leaves of both genera were carried out. Compared with the leaves of *Apocynum*, the leaves of *Poacynum* have the following characteristics: 1) On both leaf surfaces palisade tissues are found. 2) the stomata are present on both sides at the same density, 3) conical cuspidate hairs are prominent.

[Natural Medicines, 48, 63-70 (1994)]

[Lab. of Herbal Garden]

Pharmaceutical Studies of Plantaginis Herba (12) Morphological and Histological Studies on the Seeds of Chinese *Plantago* sp..

ZHENG TAIKUN, TOSHIHIRO TANAKA*, KYOKO HISHIKAWA, YUKIO NORO, TOSIICHI HISATA,
MASASHI YOSHIDA, EIJI SAKAI

The seed shapes of these 12 species were classified into two types, a bi-convex or plano-convex type and a concavo-convex boat-shape type. Seven species belong to the former type and are distinguished from each other by the size and nature of pigment layer cells. Five species belong the latter type and are distinguished by the outer shape, arrangement of cotyledon and characters observed by SEM. the samples from four provinces were identified as *P.asiatica*, those from two provinces as *P.major*, and those from the remaining three provinces as mixtures of these two species.