



INTERNATIONAL YEW RESOURCES CONFERENCE
Yew (*Taxus*) Conservation Biology and Interactions

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PROGRAM
ABSTRACTS
EXHIBITORS

A Project of the Native Yew Conservation Council (NYCC)

Reliable Morphological Characters for Distinguishing *Taxus* species. Richard M. Spjut, World Botanical Associates, Laurel, MD 20708-0829.

Species of *Taxus* have been recognized by knowledge of their geographical occurrence and then reportedly distinguished from their disjunct relatives by highly subjective differences in the shape and persistence of the bud scales, color of the leaves and twigs, and acuteness of the leaf apices. However, other characteristics of the leaf appear more reliable--number of stomatal rows, presence and position of papillae, shape of the epidermal cells, curvature of the lower midrib, and color of the stomatal bands compared to the nonstomatal regions. Consequently, 14 species have been identified. The North American species--*T. globosa*, *T. floridana*, and *T. brevifolia*--appear closely related by having <10 rows of stomata per band and a nearly quadrangular shape to the epidermal cells in transverse section, whereas the east Asian species--*T. cuspidata*, *T. sumatrana*, and others--are characterized by 12 to 19 rows of stomata and dorsally-compressed epidermal cells. The southeast Asian *T. yunnanensis* is related to the Pacific *T. brevifolia* by the angular upper-epidermal cells, but it also has 12 or more rows of stomata per band. *T. baccata* is related to the American species by the <12 rows of stomata per band and to east Asian species by the dorsally compressed epidermal cells. *T. canadensis* is considered to be morphologically isolated by the absence of papillae from the epidermal cells. Other species are evident, and nomenclatural problems need to be resolved.

Foliar Endophytes of *Taxus brevifolia* Nutt. in Western Oregon. Jeffrey K. Stone, Dept. of Botany and Plant Pathology, Oregon State University, Corvallis, OR 97331-2902; and David S. Gernandt and G. C. Carroll, Dept. of Biology, University of Oregon, Eugene, OR 97403.

Colonization of *Taxus brevifolia* foliage by asymptomatic fungi is consistent with patterns documented for other broad-leaved and coniferous evergreen hosts. The principal species isolated from surface-sterilized *T. brevifolia* foliage was *Phylliosticta concentrica*, which comprised between 50 to 70% of the total infections. *P. concentrica* was isolated from all samples in a preliminary survey of 24 wild trees in western Oregon and southwest Washington. A species of *Phomopsis* was also widely distributed on foliage, but accounted for less than 10% of total infections. The remaining infections were found in a number of incidental species. Infection frequencies were greater in samples from lower elevation sites and in foliage older than two years. Microscopic examination of cleared whole needles revealed the presence of intercellular fungal hyphae in limited, localized infection sites. These hyphae have a characteristic globose morphology and are presumed to correspond to *P. concentrica* infections.