
RECENT RESEARCH ACTIVITIES

Wood selection in Japanese traditional tea ceremony room

(Laboratory of Biomass Morphogenesis and Information, RISH, Kyoto University)

Suyako Tazuru-Mizuno and Junji Sugiyama

Identification of wood heritages has provided beneficial information on the origin, historical background, wood selection and also new perspectives. In specific, historical cultural exchanges would be one of the possible factors that influence the wood selection in Japan. Recently, microscopic wood identifications were performed on the decorative and structural elements of several Japanese traditional tea ceremony rooms “Chashitsu” in Kyoto, Japan [1]. Although Japanese tea ceremony rooms are well-known as representative expression of “Wabi-Sabi” the Japanese senses of beauty, scientific wood identification has not seen as important in the past.

For wood identification, minimum amount of samples that are necessary for making preparation were collected carefully from deteriorated parts or cracks so as not to alter the appearance and strength. Hand-sectioned samples were observed under an optical microscope and the samples were identified on the basis of microscopic anatomical features. However, in many cases, it is not easy to collect enough size of samples from old valuable wooden artifacts. In many cases, only one tiny sample can be provided. In order to preserve such a precious tiny sample, synchrotron X-ray microtomography (SRX-ray μ CT) that is non-destructive and non-invasive method has been widely applied. Our investigation recently revealed this method is effective for identification and observing anatomical structure [2] [3]. From Japanese traditional tea ceremony room, it was difficult to get enough size of samples; SRX-ray μ CT was also applied to identify the wood species.

As a result, the unique wood usage peculiar to tea ceremony rooms was revealed. For instance, combination usage of *Pinus densiflora* and Zoboku (wood with bark) or *Cryptomeria japonica* and Zoboku for Tokonoma was confirmed. Furthermore, some results concerning about the wood selection envisaged a very unique cultural interaction between the architectural styles of Korean peninsulas and Japan. Now, other investigation of tea ceremony rooms in regard to wood species has been started in Kansai area. In order to deeper the “Wabi-Sabi concept” in wood selection and reveal the linkage among Asian counties, wood identification would be more and more important.

Acknowledgements

The synchrotron radiation experiments were performed at the BL20XU in SPring-8 (Japan) with the approval of the Japan Synchrotron Radiation Research Institute (JASRI. Project Nos. 2009B1093, 2009B1981, 2010A1932, 2011B1239 and 2016B1743). Part of this study was supported by the Database for the Humanosphere (Xylarium) of RISH, Kyoto University, as a collaborative program. This work was supported by Cultural Properties Division (Kyoto Prefectural Board of Education), Nobotokean tea room and Konchi-in Temple.

References

- [1] Mizuno (Tazuru) S, Sugiyama J, “Wood identification of Building Components of the Tea Room Hasso-seki of Konchi-In Temple Designated as an Important Cultural Property”, *Mokuzai Gakkaishi*, 57, 1, 14-19, 2011.
- [2] Tazuru S, “A Scientific Identification of the Species of Trees Used for Tea-ceremony Rooms: The newest Method”. *The Journal of Chanoyu*, 27, 59-66, 2017. (in Japanese)
- [3] Hairi C, Nugroho W, Tazuru S, Sugiyama J, “Identification of wooden keris sheath using synchrotron X-ray microtomography”, 67th Annual Meeting of Japan Wood Research Society, 2017.