Book of Abstracts

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Hymenonema laconicum Boiss. & Heldr. (Asteraceae)

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Wood anatomy as a starting point for dendroarchaeological research: case studies from Greece

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Dendrochronology is the scientific method that uses tree-rings for dating past events. One of its possible applications is dendroarchaeology, in which tree-rings are used to study and date historical and archaeological wood from various contexts and functions. As the most accurate dating method, dendroarchaeology is used to determine the exact time when timber was felled, transported, processed, and used for construction.

A crucial piece of information for applying dendrochronological analysis to historical wood is an accurate identification of the tree species the object is made from. This information guides the selection of appropriate reference tree-ring chronologies of the same species or other species with similar growth responses to environmental conditions, which allows the object to be successfully cross-dated and absolutely dated. The identification of tree species also gives insights about the possible timber origin.

The basic information on tree species can be obtained during macroscopic observation of the cross section of historical wood. Precise identification, however, can only be made from anatomical studies requiring microscopic observation of cross, tangential and radial sections.

Within the framework of the Balkan-Aegean Dendrochronology Project: «Tree-Ring Research for the Study of SE-European and East Mediterranean Civilizations» we have collected and examined samples from numerous sites in the Balkans and the Aegean region.

In Greece, we analyzed objects made of different species: Bosnian pine (*Pinus heldreichii*) and Black pine (*Pinus nigra*) from Epirus; Brutia pine (*Pinus brutia*), cedar (*Cedrus libani*) and fir (*Abies alba*) from Symi island; juniper (*Juniperus* sp.) and olive (*Olea europea* L.) from Sikinos island; cypress (*Cupressus sempervirens*) from Crete, and deciduous oaks (*Quercus* spp.) from several sites in mainland and the islands, suggesting the use of both local and imported timber. The objects under study include historical buildings, doors, barrels, icons and archaeological charcoals.

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