Scientific Species Identification for the Deckhouse, Canopy and Forecastle of King Khufu's Second Boat

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Introduction

One of the most crucial steps in learning about a wooden artefact of historical or artistic interest is determining the species of wood used, whether for conservation and restoration purposes or for their cultural significance. This highlights the high level of skill attained by the ancient artisans in woodworking and the ancient trade route. In recent decades, there has been a great deal of interest in the wood identification of ancient Egyptian objects. Despite the fact that numerous authors have conducted extensive reviews and studies of the wood identification used on Egyptian artefacts from various eras of ancient Egypt, including coffins, shrines, headrests, statues, and portraits, a few studies that are specifically focused on the wood identification of boats, in particular the first boat of King Khufu (4th dynasty), have been reported by some authors. Using samples from various areas of the first boat, El Hadidi (2005) discovered the use of sidr, Ziziphus spina-christi (L.) Willd. for two pegs and a tenon; acacia, Acacia sp. for the curved beam D; cedar, Cedrus libani A.Rich. for a sample taken from oar no. 40, which supported Dr. Philip's identification of the piece from the shaft of Additionally, Creasman's 2010 research revealed that the hull of King Senwosret III's Dahshur boat (about 1874–1855), on display at the Carnegie Museum of Natural History in Pittsburgh, was made entirely of Cedrus libani A.Rich., with a few Tamarix spp. Despite the importance of King Khufu's boats in terms of history and archaeology, there are very few published studies on the scientific identification of the wood species used in their construction, and these studies are hardly thorough. Additionally, several woodlands' identities are still up for debate [1,2].

Discussion

As shown in the results for the deckhouse unexpectedly revealed that 15% of the analysed samples were from Cedrus libani A.Rich, which was used in the cross beams and external cross pieces of the roof, while almost 85% of the analysed samples for the boards, frames, and cross pieces of the deckhouse's sides were from Juniperus sp. Nearly all of the samples that were tested came from Cedrus libani A.Rich., which was utilised for the canopy's pillars, cross beams, and pillar bases. According to Figure 4, 25% of the tested samples from Ziziphus spina-christi (L.) Willd., which was used for the cross beams, are from the forecastle, while nearly 75% of the studied samples from Cedrus libani A.Rich., which was used for pillars and boards. Additionally, tenons and pegs were made from Ziziphus spina-christi (L.) Willd. and Vachellia sp. (Acacia sp.). In order to carefully archive the results of the investigation, a

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database for the results of the thorough analysis on the wood identification of each item of the boat was designed [3-6].

Conclusion

Cedrus libani A.Rich., which was used for the canopy's pillars, cross beams, and pillar bases, provided nearly all of the samples that were evaluated. Figure 4 shows that 25% of the examined samples from Ziziphus spina-christi (L.) Willd., the tree used to make cross beams, are from the forecastle, compared to approximately 75% of the examined samples from Cedrus libani A.Rich., the tree used to make pillars and boards. Additionally, Ziziphus spina-christi (L.) Willd. and Vachellia sp. were used to make tenons and pegs (Acacia sp.). A database for the outcomes of the comprehensive analysis on the wood identification of each component of the boat was established in order to meticulously document the investigation's findings. Surprisingly, the study showed that 25% of the studied samples of forecastles came from Ziziphus spina-christi (L.) Willd., which was discovered for the first time in the Old Kingdom of ancient Egypt for creating cross beams in the construction of boats. The usage of Juniperus sp., which surprisingly revealed that approximately 85% of the examined samples were from Juniperus sp., in the boards, frames, and cross beams of the deckhouse, is another intriguing part of the boat's construction.

Acknowledgement

None.

Conflict of Interest

None.

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