

12,000-year-old flutes that imitate bird calls discovered in Israel

Rare prehistorical objects found in the Huleh Valley in northern Israel according to new scientific paper.

A new paper by Dr. Laurent Davin, a post-doctoral fellow at the Hebrew University of Jerusalem and the Centre de Recherche Français à Jérusalem (CRJF), and Dr. José-Miguel Tejero, (the University of Vienna and the University of Barcelona, Spain), published in the prestigious journal *Nature Scientific Report*, uncovers that rare prehistorical objects found in the Huleh Valley in northern Israel, crafted 12,000 years ago, functioned as miniature flutes – and was perhaps used for hunting, music or some form of communication with the birds.

The Eynan/Ain Mallaha site, in the Huleh Valley of northern Israel, was first excavated by a French mission since 1955 and later in 1996–2005 by a joint team from the CRJF and the Israel Antiquities Authority (IAA), directed by François Valla of the Centre nationale de recherche scientifique (CNRS) and Dr. Hamoudi Khalaily of the IAA. In the settlement circular structures, homes of hunter-gatherers, the bones of a variety of animal species, including birds, were found.

As part of the material culture study and funerary offerings at Eynan/Ain Mallaha from the final Natufian period (12,000 ago), Dr. Laurent Davin, examined the bones of birds that were recovered by the excavators. According to Prof. Tal Simmons of Virginia Commonwealth University, most of them are wintering waterfowl. Dr. Davin noticed marks on seven tiny wing bones of Eurasian coots and Eurasian teals. In collaboration with Dr. José-Miguel Tejero, he closely examined these marks and realized they are very tiny holes bored into the hollow bones.

To figure out how the objects were used, the team worked with researchers at the CNRS, (Aurelia Bourbon and Olivier Tourny), to fashion

replicas of the originals. As part of an experiment carried out on the replica, They discovered that the instruments produce different sounds and it was concluded that they are flutes. When the sounds were compared with the calls of dozens of birds species that were found in Eynan/Ayn Malaha they proved to resemble those of birds of prey—the Eurasian Sparrowhawk and the Common Kestrel.

One of the theories is that people equipped with the flutes took up a position near waterfowl. When the sparrowhawks and kestrels, attracted by the calls produced by the whistle, approached, the waterfowl took wing and flew off in variety of direction, making them easier to catch. It also seems likely that in the ensuing confusion the birds of prey themselves could be trapped; their claws had several uses, including ornaments and to pierce bones for produce new whistles. It is also possible that the sounds produced by the flutes served different social-cultural-symbolic functions for the hunter-gatherers in Eynan/Ein-Mallaha. This finding joins other testimonies as to the complexity of the world of sound - of the people of the Natufian culture, said Dana Shaham, a doctoral fellow from the Hebrew University of Jerusalem, whose research specialty is ancient art.

“One of the flutes was discovered complete. So far as is known it is the only one in the world in this state of preservation,” add Dr. Laurent Davin and Dr. Hamoudi Khalaily. “The replicas produce the same sounds that the hunter-gatherers may have made 12,000 years ago.”

According to Dr. Khalaily of the Israel Antiquities Authority, “If the flutes were used for hunting, then this is the earliest evidence of the use of sound in hunting. In most sites from the same period as Eynan, these instruments deteriorated and vanished. consequently, they were found as a result of the careful and gentle sieving the excavation finds using water. This discovery provides important new information on hunting methods and supplements the various prehistorical tools that mark the start of the transition from agriculture and the cultivation of plants and animals in the southern Levant.

Prof. Rivka Rabinovich of the Institute of Archaeology and scientific director of the National Natural History Collections at the Hebrew University, where research is conducted on the remains of animals from the Eynan/Ayn Malaha site, says: “The current research shows just how important it is to preserve the cultural finds uncovered during

excavations, which continue to yield new insights and research directions into human culture, thanks to new methods and to collaboration among scholars in different disciplines.” She adds that “waterfowl are extremely widespread and represented by entire skeletons, whereas most of the remains of birds of prey are their talons. The flutes were found at the site in several concentrations, evidence of different areas of activity.”

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