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West side of Tavistholmen (Loviisa) MVID#1000039615

The Tavistholmen wreck appears to have been a single-masted sailing ship built of softwood, with a full-length tongue-and-groove construction, which was quite wide amidships, but whose bow and stern narrowed quite sharply, at least near the waterline. The bow and stern were straight and the ship apparently did not have much deck, as only a couple of knees have been identified from the wreck. The keel has side supports for the bottom logs, which are unique in Finnish conditions. The bow of the ship apparently had a fireplace made of slate and bricks. Preliminary radiocarbon dating suggests that the ship was built in the 16th century.

Location (WGS84) and date of last inspection: Lat: 60° 23.7246' N, Lon: 26° 14.3059' E // March 8, 2024

Depth & length & direction: about 2.5m, about 18m, direction of rotation about 40°/220°

Research team and rapporteur: Topi Sellman and Markku Luoto

Research material: https://masdownload.mikrojebe.fi/kähet/1000039615_Tavistholmen/

Link to the Ancient Relics Register: https://www.kyppi.fi/palveluikkuna/mjreki/read/asp/r_kohde_det.aspx?KOHDE_ID=100...

Link to this page: <https://www.mas.fi/fi/julkaisut/hylykehte-merialue/tavistholmen-lansipuoli-lo...>

Location on the map in relation to other ancient remains



Research measures performed

The purpose of the study was to supplement the 3D ontology of Baltic Sea wrecks collected by the Finnish Maritime Archaeological Society. The wreck was located using GPS and the coordinates of the Kyppi.fi service, which directly hit the wreck. The wreck area was explored by diving from the opening and using only non-intrusive methods. The wreck was filmed with 4k video (Topi Sellman) and 4k & FHD stereo video (Markku Luoto). The filming was carried out from a distance of less than a meter, which means that the resolution of the image is better than that of the human eye from a similar distance. A small flux sample was taken from the arch near the mast shoe (annotation #15) for radiocarbon dating. In addition, the quality of the wood material and the methods of attaching structural parts were generally observed. Topi Sellman made a 3D model of the wreck, which contains a total of 5600 images and the resulting 3D model has over 11 million polygons, with a size of about 612MB. The version uploaded to Sketchfab had to be reduced to about a third of the full resolution. Markku Luoto optimized and annotated the model in Sketchfab. Similarly, the images on this page have been extracted from the 4k material photographed by Markku Luoto. The uncalibrated radiocarbon age of the preliminary, exclusive AMS radiocarbon dating was 323±28 C14 years. The Oxcal calibrated result curve is in the adjacent image. All source material and results can be found in the "masdownload" link above.

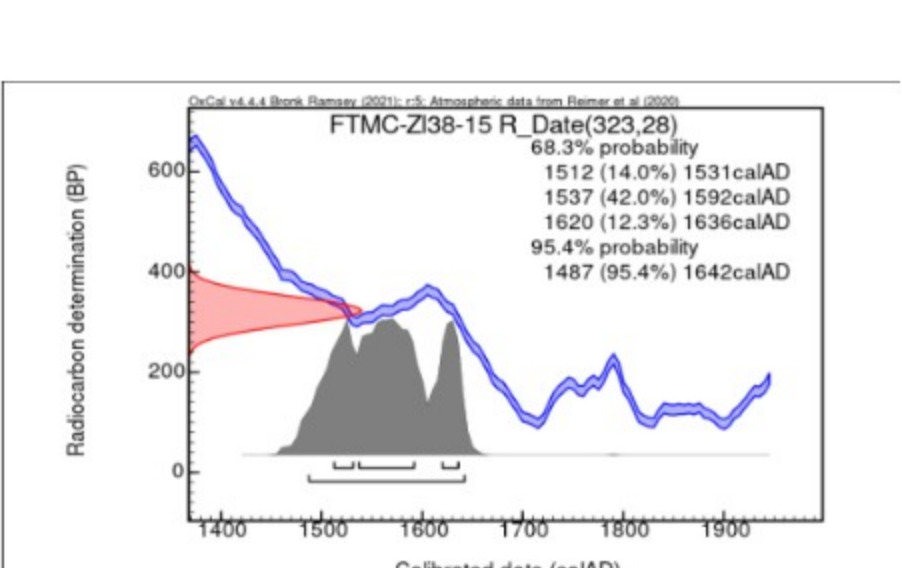


Fig. 15. Radiocarbon date 323±28BP (red), part of the calibration curve (blue) and the calibrated probability density function (grey) calculated in OxCal.

Description of the item

The depth of the bottom at the wreck is approximately 2.5 m. The wreck area is approximately 20 by 8 meters and is oriented almost northeast-southwest, with the stern (determined based on the hinge locations in the stern coaming) in the southwest, i.e. on the open sea side, and the bow in the northeast, towards the shore. The bottom supports and arches are fully jointed. The trace of the flow is light. The keel is mostly visible and one mast shoe stands out from it slightly aft from amidships. Supports resting on the bottom supports have been bolted to the keel at intervals of approximately one meter. Based on the arches of the bow and stern coaming and the starboard side, the wreck lies tilted almost 30 degrees to port, i.e. the left side is approximately 30-40 cm deep in the mud (measured by sounding). As can be seen from the 3D model, the bow and stern of the wreck narrow sharply and for some reason the last bottom supports of both ends are loose on the bottom on the starboard side of the wreck. The starboard side has been destroyed, except for a few lowest side planks and bottom supports. The port side of the wreck has been preserved under sediments for up to four meters from the keel. No metal parts were in the wreck, although the recesses of at least two hinges can still be distinguished in the stern. The remains of wooden connecting pins are visible in the arches and nail holes are visible in the joints of the side planks, but they are not distinguishable from the seams due to the silt. There is a small pile of bricks and slates in the bow of the wreck. No cargo or ballast was found in the wreck, nor were any loose objects in addition to the structural parts of the wreck.

Preliminary interpretation

Our preliminary interpretation is that this is the wreck of a very old, glued-together sailing ship. Based on radiocarbon dating, the erosion of the wood and the complete corrosion of the iron parts, it is almost certain that the wreck has been submerged for over 100 years, meaning that it is a solid ancient relic.

The interpretation of the material is still in progress, but the keel line of the wreck, which appears to be quite intact, is approximately 18 m long. Based on the sloping bottom logs of the midship and the port side preserved in the sediments, it would seem that the ship could have been up to 7 m wide in the middle. The keel seems to have moved as much as 2-3 m aft, because its front part is now not supported by anything. This explains the current position of the mast shoe in the longitudinal direction. The ship almost certainly had only one mast, because the second mast shoe is not visible in the keel. When observing the arches and side planks and taking a wax sample from the arch, it was given the impression (a light wax mark) that it was a ship made of at least mainly softwood species such as conifers. Based on the completely stepped bottom logs and arches, the ship appears to have been entirely tongue-and-groove and at least mainly an open "pod", because only a couple of knees or possible deck beams can be found in the wreck. The ship appears to have had garnishing on the bottom. The structure rising from the bow and stern keel has been very narrow, reaching an unusually high height, judging by the extreme bottom supports, which are also unique in Finnish conditions due to their high and narrow profile.

The softwood material and the glulam construction technique with tenon joints suggest, in our opinion, the shipbuilding tradition of the northern Baltic Sea, but the side supports of the pig keel, reminiscent of the "björnar" of the cogs - of course much lighter in structure - are a unique exception compared to other similar wrecks. The visible boards indicate a ship that is very wide in the middle, but sharply narrows at the bow and stern. The straightness of the bow and stern coamings indicates an older, even medieval, ship type, which is also supported by our interpretation of the Oxcal calibration. Judging from the bricks and slates, there must have been a fireplace in the bow of the ship, which suggests open sea sailing. The position of the ship, bow facing the shore, may indicate that the ship, damaged, sought a port of refuge before sinking. This is also supported by the lack of ballast, meaning that the ship's cargo was saved when it sank in shallow water. Our interpretation of the preliminary radiocarbon dating Oxcal calibration places the wreck with about 80% probability in the 16th century - possibly even in the early 17th century, when the amount of radiocarbon has been decreasing => the calibrated age is older than the standard age. Our interpretation is opened in the adjacent image.

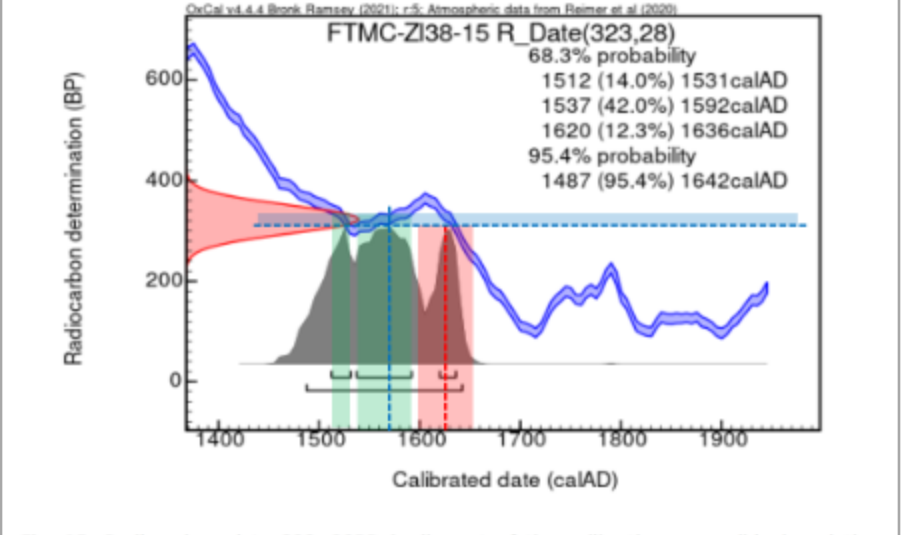


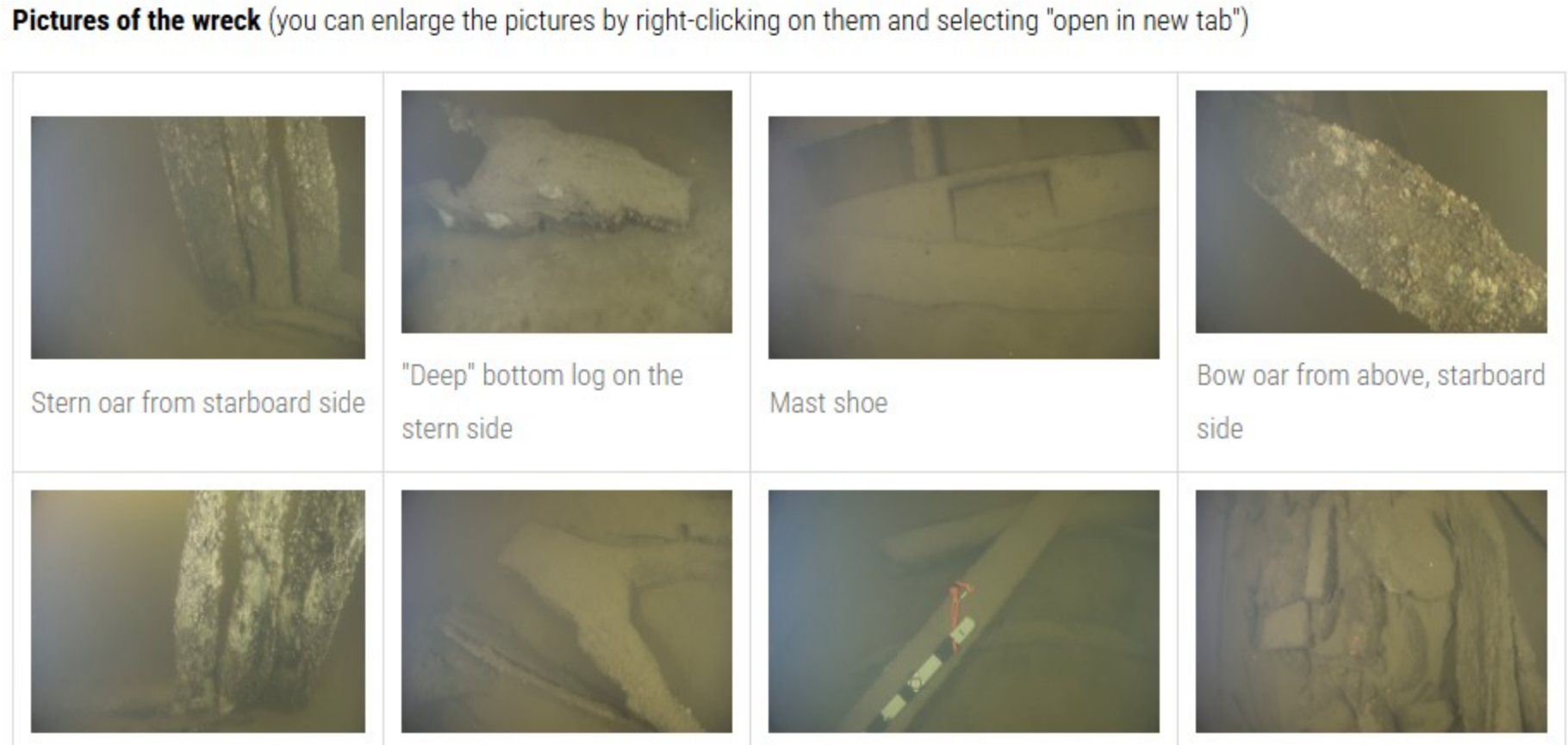
Fig. 15. Radiocarbon date 323±28BP (red), part of the calibration curve (blue) and the calibrated probability density function (grey) calculated in OxCal.

3D model of the wreck



Shipwreck Tavistholmen west side (Loviisa) by Finnish Maritime Archaeology Society on Sketchfab

Pictures of the wreck (you can enlarge the pictures by right-clicking on them and selecting "open in new tab")



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Page history in PDF files:

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Contact information

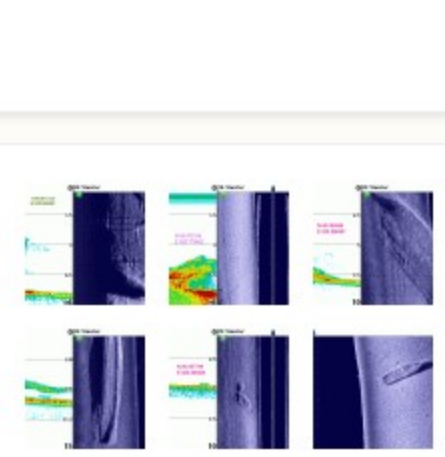
- all club communication channels

3D models in Sketchfab

- a showcase of the wrecks we modeled

MAS portal

- the club's open data repository, approx. 18TB



More pictures of our activities

