

# THE RAŠIA BOAT: FROM LOG-BOAT TO BOAT (A CASE STUDY)

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## Abstract

Lithuanian boat and ship archaeology is a field of studies that is still in its very early stages. This paper is presented as a case study of a solitary watercraft found during underwater prospecting. The subtitle 'From log-boat to boat' is intended not only to stress technical innovations and transitions in boat-building techniques, but also to open a new chapter in Lithuanian inland underwater archaeology, with an emphasis on boat and ship archaeology. Some technical features of this boat, such as the bottom made from a single piece of pine, links it to more archaic log-boats. In eastern Lithuanian woodlands, archaic watercraft remained relatively unchanged up to modern times. From appearances, the Rašia boat can be taken as originating during the change from log-boat to boat, reflecting some features that can be retrospective in time to earlier periods of history.

Key words: underwater archaeology, underwater prospecting, ship and boat archaeology, log-boat, plank boat, boat-building, caravel-built, eastern Lithuania, Lake Rašia.

This article is based on a recent (2009) boat find at Lake Rašia in the Labanoras Regional Park in the east Lithuanian lakes region. For more than a decade, a team of young archaeologists have been diving and prospecting rinic lakes of glacial origin, searching for still little-known archaeological objects underwater. This has enabled them to discover a number of log-boats, interpreted as a very archaic and at the same time a very typical means of water transport on Lithuanian lakes and rivers. The Rašia boat is the first find of plank-built watercraft of its type to be discovered on the lake bed. The title of the article 'From Log-Boat to Boat' has the intention not only of stressing technical innovations and transitions in the boat-building technique, but also of opening a new chapter in Lithuanian inland underwater archaeology, with the emphasis on boat and ship archaeology.

To date, there are only a few publications concerning inland plank boats, mainly research done from an ethnographic point of view. The first attempt to describe fishermen's boats used in the Vilnius region was made by the Polish ethnographer M. Znamierowska-Prufferowa in the early 1930s (Znamierowska 1930). She documented the building of a boat named 'the bat'. This was a boat with frames made from a single curved tree branch, and side planks joined in clinker style. A few pictures were taken of men making a boat on the shore of Lake Skaistis (in the Trakai district). Another ethnographer, V. Vitauskas, described the whole process of boat-building by River Dubysa fishermen, from curving the boat's flat bottom, and joining planks with iron nails, to covering the hull with resin pitch (Vitauskas 1939). In 1966, 17 log-boat and plank boat types were published in an attempt to systematise data gathered by the Ethnographic Museum

of Lithuania (Bernotienė 1966). A. Butrimas in 1993 published an article about the first plank boats used in the Lake Biržulis area, pointing to water-powered sawmills as the main impulse for the appearance of these boats (Butrimas 1993). The extensive study of fishing history by L. Piškinaitė-Kazlauskienė deals with rafts, log-boats and plank boats used up to modern times (Piškinaitė-Kazlauskienė 1998). However, all the above-mentioned publications are more of a descriptive nature, based on oral interviews or photographic material. The discovery of the Rašia boat enables us to take a more comprehensive view.

The site of the boat (Fig. 1, see Plate IV) was indicated by a diving enthusiast. The boat was lying bottom down at seven metres depth, on an underwater slope, coming from a small lake island. Being half-submerged in silt, it was full of sand and fine gravel. Before making the documentation, some of this sand was removed.

The Rašia boat (Fig. 2) is made from pine, and is 5.6 metres long and up to 1.6 metres wide in the central part. The bottom is formed from a single five-centimetre-thick plank, 32 centimetres wide in the middle, and narrowing at the front and back to 12 centimetres wide. Five frames of a rectangular diameter seven by eight centimetres, each curved from a single piece of pine, are joined to the bottom every 60 centimetres. The bow is carved from a rectangular trunk 12 by 12 centimetres in diameter, and 80 centimetres high. The stern is made from a trapezium-shaped plank, widening upwards from 12 to 48 centimetres. It has a semi-circular notch on the edge.

Three planks on each side some 20 centimetres wide and two or three centimetres thick are joined in caravel style, fixed with frames using treenails of 2.5 centime-

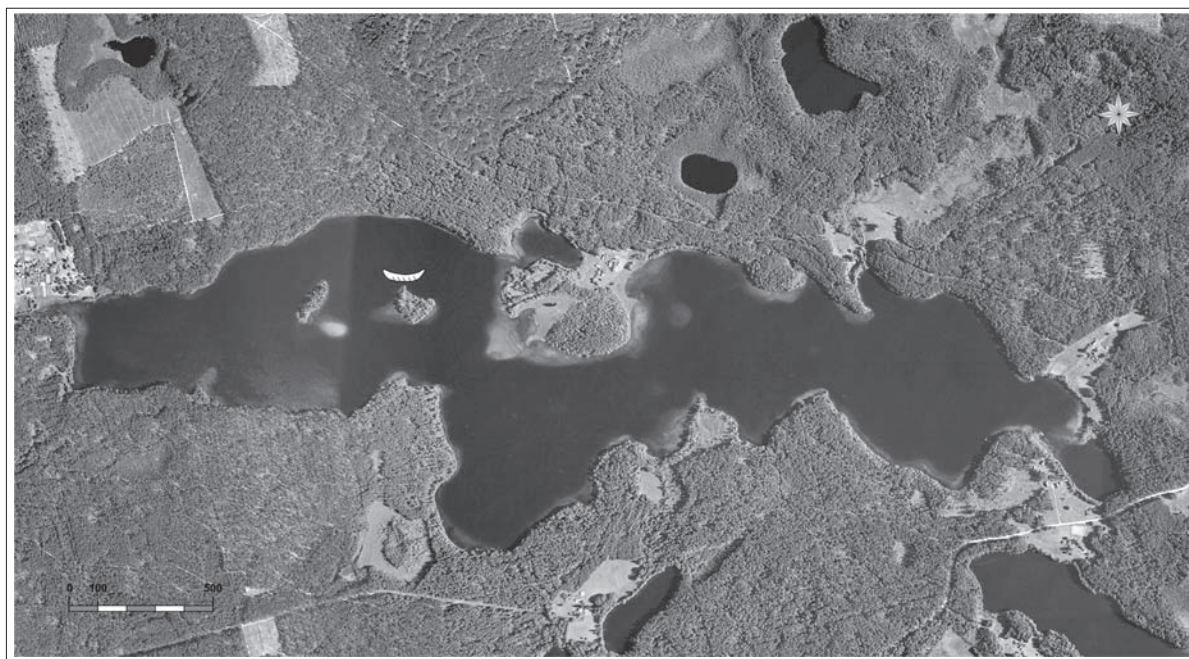


Fig. 1. Lake Rašia (Labanoras Regional Park) and the site of the boat find (by R. Kraniauskas).

tres in diameter. Rectangular-shaped iron nails were used only to join the side planks with the bow and the stern. The caulking between the planks was made by filling the gaps with moss. The first three frames on the edges of both the boat's sides are joined by semi-circular 12.5 centimetres in diameter, 140-centimetre-long trunks. The upper planks have rectangular-shaped holes in the front and at the back of the boat. The hull is impregnated with a thick layer of brown organic resin pitch that helped to preserve the boat in very good condition. Overall, it seems that the boat was used very little, and foundered on one of its first voyages.

The first technical feature that draws our attention is the bottom. The single massive plank contrasts with the later well-known flat-bottomed multi-planked inland watercraft. Log-boats, as some of the most archaic and widespread watercraft, are frequently interpreted as being the direct forerunners of plank-built boats in culturally and historically different regions (Hornell 1946, p.189; Johnstone 1989, p.45). Although evolution theories in the transition of boat-building are criticised, it is hard to deny the influence of the experience and customs of older techniques in newly appearing watercraft. In the east-southeast Baltic Sea area, two major factors led to radical changes in navigation and boat-building techniques.

The first of them was the Viking era, and the influences of Scandinavian boat-building traditions. There are a number of boat finds in the west Slavic trading centres of Ralswiek and Wolin linking log-boats directly with plank boats. The technical transition of the boat-build-

ing technique is evidenced by adding additional planks to log-boat sides, and the gradual reduction of the log-boat hull (Springmann 2009, p.190). During this evolution, specific types of V-shape ship keels emerged (Indruszewski 2004, p.207). Relict log-boats as hollowed keels have been used in even bigger framed and clinker-built Slavic ships (Smolarek 1981, p.51).

The second factor took place in the Middle Ages with the introduction of higher draught cog ships, when a strict line was drawn between seagoing sailing ships and inland watercraft. In the eastern Baltic area, it is almost impossible to find continuity in boat-building traditions, as the Viking-era style of navigation, routes and trade centres disappeared. The early Middle Ages were marked by a change in the socio-economic model and led to the change and adaptation of watercraft suitable for new purposes for trade and provision between inland ports and seaports, or medieval towns and their hinterland. In the early stages of this transition, log-boats were again enhanced and modified to suit the needs of transport. A huge log-boat up to 14.3 metres long with clinker-built planking and separate frames from the end of the 14th century was found in Gdansk (Ossowski 1999, p.125). Expanded log-boats with side planks and frames, able to carry horses, were common in the northwest Slavic lands of Novgorod and Pskov (Voronin 1951, p.282). For a while, these hybrids must have coexisted with flat-bottomed boats. Unfortunately, in Lithuania there are no archaeological finds or direct evidence of transitional types of boats from the Viking or medieval periods.

Despite all the changes and innovations, log-boats were in use up to the mid-20th century in Slavic and Baltic lands on a smaller scale, mainly in fishing. Even at the beginning of the 21st century they were used for fishing in southern Lithuania (Perminas 2008, p.38). Small country communities indulging in fishing as an alternative economic activity along Lithuanian lake shores maintained this tradition for hundreds of years. At this level, the introduction of plank-built boats occurred only in modern times, somewhere at the turn of the 19th and 20th centuries, though it is possible to notice a continuity from the log-boat building tradition to eventually changing them into plank boats.

The Rašia boat is considered one of the very first plank boats to appear in the eastern Lithuanian lakes, and shares some common features with a log-boat. The long and narrow bottom made from a single thick plank resembles a relict log-boat, and invokes the relative instability of the watercraft. To enhance stability, the central part of the boat is widely spread. Rectangular holes in the upper planks look like positions for stabilising wings used in log-boats (Perminas 2009, p.51). There are no fixed positions for oars on the sides of the boat. The semi-circular notch on the stern suggests that the boat was propelled as a log-boat by one long rudder. All later-known plank boat types have at least three bottom planks, fixed oar positions, and seats inside the hull.

It was designed for fishing: two trunks of a semi-circular cutaway on the sides of the boat were used to slide fishing nets. Lake Rašia is connected with the Lakajai lake system, giving access for fishing in a huge water basin. These lakes are situated in the biggest Lithuanian woodlands, around Labanoras, surrounded by sandy hills, where pine trees grow abundantly. The woodlands form a poorly accessible area for rapid cultural or technical innovations from other regions. Because of the poor soil, fishing and hunting played a very important role in the economies of small local communities.

In comparison with ethnographic boat descriptions and documented log-boats rarely exceeding five metres, the Rašia boat is relatively long and has an extra capability for carriage. This kind of boat can have been used for the transport of hay, which was common among farmers living by a waterfront and cutting grass on islands or lake shores (Piškinaitė-Kazlauskienė 1998, p.165). In the Lake Rašia landscape, the only terrain suitable for grass cutting is on the southwest bank. For a wooded area with sandy soil, hay transport was of essential importance to local farmsteads.

It is hard to say where the boat was built. Lake Rašia's shores were thinly populated. Probably the boat was

brought here by waterways, maybe from the nearby larger lakes of Lakajai. It is made of local materials, and by a local carpenter, who did his best in combining the deep traditions of log-boat hollowing with a modern knowledge of the planking technique.

Was it a fishing or transport accident that led to the boat foundering? Its site and position suggest that somebody was fishing around the island, or carrying something from it, although the cargo looks strange. The boat is slightly inclined to the left, and full of sand and gravel. In surrounding sites, it is impossible to accumulate such an amount of ballast by any hydrodynamic forces. It is evident that its foundering was intentional, filling the boat with sand and gravel from the island.

According to the boat's technical features, the level of preservation, the site and the local traditions of boat building, it can be dated to the end of the 19th century. In an archaeological sense, this is a modern find, but interpreted as very representative of east Lithuanian woodlands and lakes, noting the region's late transition from some representations of its archaic past. The Rašia boat appears to date from the change from log-boat to boat, reflecting some features that may be retrospective in time to earlier periods of history.

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## RAŠIOS VALTIS – PERĖJIMAS NUO LUOTŲ PRIE VALČIŲ

### Rokas Kraniauskas

#### Santrauka

Šio straipsnio idėja gimė 2009 m., kai Rašios ežere (Labanoro regioninis parkas) povandeninių archeologinių žvalgymų metu buvo rasta nuskendusį neįprasta lentinė valtis. Daugiau kaip dešimtmetį žvalgant riničius Rytų Lietuvos ežerus įprastu radiniu tapo luotai. Šios archajiškos vandens transporto priemonės, naudotos nuo akmens amžiaus iki pat XXI a., ne kartą atkreipė tyrinėtojų dėmesį. Tuo tarpu apie lentines valtis žinoma tik iš pavienių etnografinių aprašymų.

Rašios valtis rasta 7 m gylyje gulinti ant povandeninio šlaito, einančio nuo ežero salos. Valtis yra pušinė, 5,6 m ilgio, 1,6 m pločio, bortai suformuoti iš trijų lentų, kurios viena su kita sujungtos karavelės stiliumi. Karkasas sudarytas iš 5 vientisų špantų, išdėstytų kas 60 cm. Valtis gerai impregnuota ruda organine derva, o tarpai tarp lentų užkišti samanomis. Įdomiausias valtės konstrukcijos elementas yra dugnas, suformuotas iš vienos lentos, 32 cm pločio per vidurį, siaurėjančios į priekį ir galą.

Kyla klausimas, ar galima įžvelgti Rašios valtės konstrukcijoje tęstinumą tarp gerai pažįstamų luotų ir naujai atsirandančių lentinių valčių. Vandens transporto priemonių evoliucijos teorijos įžvelgia tiesioginį perėjimą nuo luotų prie lentinių laivų – degraduojant luotui iki kylio ir laipsniškai atsirandant papildomoms bortų lentoms. Tam įrodyti pasitelkiami laivų su reliktiniais luotais – kiliais radiniai, žinomi iš vakarų sla-

vų gyventų teritorijų. Rašios valtės atveju jos dugną būtų galima taip pat interpretuoti kaip reliktinį luotą. Šis konstrukcijos elementas valtės meistro buvo pasirinktas kaip jam turbūt gerai pažįstama dugno technologija, naudota skobiant luotus. Taip pat valtyje pastebėta dar keletas detalių, būdingų luotams: nėra aiškios pozicijos irklams, laivagalyje padaryta pusapvalė išpjova, naudota vienam vairiniam irklui, abiejų šonų viršutinėse borto lentose padarytos keturkampės skylės, primenančios luotuose naudotų stabilizacinių sparnų poziciją.

Nesant radinių ir aiškios tipologijos, Rašios valtį sunku datuoti. Turint omenyje bendrą radimvietės aplinkos kultūrinį kontekstą ir įvertinant tai, kad perėjimas nuo luotų prie lentinių valčių mažose Labanoro girios kaimo bendruomenėse įvyko gan vėlai – XIX–XX a. sandūroje, Rašios valtį galėtumėme datuoti XIX a. pabaiga ir interpretuoti kaip vieną iš pavidalų pereinant nuo archajiškų luotų prie modernių vandens transporto priemonių. Nors galutinis virsmas įvykęs vėlai, techniniai valtės bruožai atskleidžia panašius perėjimo procesus, vykusius daug ankstesniais laikais.