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# The archaeological evidence for fishing in the Mesolithic of North Angara (Baikal Siberia)\*

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## Abstract

Up to the present, the territory of North Angara was one of the most poorly archaeologically studied regions of Baikal Siberia, mainly a result of its large scale and inaccessibility. The rescue field work conducted by the Institute of Archaeology and Ethnography SB RAS Boguchan expedition (2007–2012) provided a large amount of archaeological data to study the historic and prehistoric heritage of this area. The region is situated on the north boundary of Baikal Siberia and includes the territory of Lower and Middle Angara and the Lower Ilim Valley. The North Angara belt is located between 55 and 60° N, and 90 to 105° E. Most of the territory is covered with boreal forests, larch being especially abundant. It features a dense network of rivers, small to large, the Angara providing the main artery fed by a large number of rivers. The Angara was characterized by incised braided channels (parallel-branching types) with many islands of different genesis, structural levels and morphodynamical types, many rifts, swift waters, and variables currents from fast to slow water. Up to now, 17 sites containing materials from the Middle-Final Mesolithic have been recorded in the North Angara region. Archaeologically recorded traces of fishery have been found at seven of them: Ostrov Listvenichnyi Points 1 and 2, Ust-Yodarma II, Ust-Keul I, Ust-Igirma, Ust-Kova I, and Vorobyevo. In the materials of last three sites, the finds traditionally associated with fishing are represented by a horn "beater" (Ust-Igirma), a fragment of a barbed point (Vorobyevo), and isolated remains of ichthyofauna (Ust-Kova I). At other mentioned sites, the evidences of fishery are representative and show the presence of this economic activity, and also its role in the subsistence system and strategies of the ancient population in the northern Angara region. The Final Pleistocene to Early Holocene horizons of these sites contained relatively numerous diagnostic remains of ichthyofauna and fishing gear. From the analysis of ichthyofauna remains, the relationships demonstrating two different fishing strategies between the recorded species have been plotted. The first one, combining materials from Ostrov Listvenichnyi, Point 2 (layer 5), Ust-Keul I (layer 8), and Ust-Yodarma II (layer 9) shows a predominance of sturgeons (*Acipenser*) in the composition of catches. The second strategy is observed with respect to the materials of Ostrov Listvenichnyi, Point 1 (layer 2). Here, the catches were dominated by burbot (*Lota lota*), sturgeons and pike (*Esox lucius*) took the second place. In addition, bone remains of taimen (*Hucho taimen*), perch (*Perca fluviatilis*), cisco (*Coregonus pidschian*), roach (*Rutilus rutilus lacustris*), ide (*Leuciscus idus*), and dace (*Leuciscus leuciscus baicalensis*) were recorded in this assemblage, whereas at other Mesolithic sites, the four last-mentioned species are absent. The data on layer 10 at Ust-Keul I, where an almost identical situation (though with a predominance of pike) is observed, can be assigned to the same strategy. Archaeologically recorded fishing

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tools at the sites where the first type of strategy has been revealed include barbed points, bait fish, and component parts of fish hooks. The functional connection between the barbed points and bait fish is described in detail and traced in numerous examples from the fishing practice of ethnographically recorded North Asian-North American communities of hunters and fishers. Owing to its small size, the composite fish hook from Ostrov Listvenichnyi, Point 1, is associated with catching fish with small mouth cavities. In this case, cisco and roach recorded at the same place can be assigned to such fish. However, a wide range of represented species points to the fishery with the use of enclosures and traps. It can be assumed that the second strategy was related to angling and setting traps. Thus, it can be assumed that the ancient population of the North Angara region had a complex system for the differentiated exploitation of fishery resources, which included various catching techniques in the Mesolithic. These fishing patterns can largely be explained as hunter-gatherers' response to minimize the risks of failure inherent to seasonal resource procurement in the boreal zone of North Asia. \*The reported study was funded by RFBR, project number 19-39-90006

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