

## Prehistoric obsidian exploitation in the Central Highlands obsidian sources and excavations of the Hiroppara site group

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The Center for Obsidian and Lithic Studies, Meiji University (COLS) has conducted archaeological and palaeoenvironmental excavations at the Hiroppara wetland and prehistoric site group (sites I and II) located 1,400m of the Kirigamine mountains in Nagawa Town, Nagano Prefecture, Japan. This paper presents a review of the Central Highlands obsidian source area where Hiroppara is located and its circumstances of prehistory, and preliminary results of Hiroppara excavations. Many sites assigned to the Upper Palaeolithic and the Jomon periods have been discovered in and around the Central Highlands. The site distribution of both periods shows distinctive patterns. The Upper Palaeolithic sites concentrate in relatively high-altitudinal zone over 1,000m close to the obsidian sources, while the Jomon sites shows dense-distribution on the hill slopes in low-altitudinal zone below 1,000m. This ebb and flow pattern reflects historical changes between the Upper Palaeolithic and the Jomon periods in the technology of obsidian acquisition, the way of land-use in the source area, the group organization, and the obsidian circulation system. The emergence of an obsidian mining site in the initial Jomon is one of representatives of those changes in the relationship between humans and obsidian. Data for archaeological chronology and changes in palaeoenvironment in the Central Highlands, however, are less accumulated than other areas, resulting in insufficient explanation for changes in human activities in and around obsidian sources. Multidisciplinary research on the Hiroppara wetland and site group provide us with a useful set of data concerning archaeological and palaeoenvironmental changes that represents a limited narrow area. The excavations of Hiroppara by COLS have been conducted three times in 2011, 2012, and 2013. The excavations at sites I and II have unearthed several cultural layers ranging from the Early and Late Upper Palaeolithic to the earliest Jomon. Palaeoenvironmental data during the late MIS 3 and the early Holocene have been obtained from microfossil analyses on the peat cores from the Hiroppara wetland. Though further analyses and integration on obtained data are still required, the Hiroppara wetland and site group will allow us to make an explanatory model for relationships between prehistoric humans and palaeoenvironment in and around obsidian sources of the Central Highlands.

Keywords: the Upper Palaeolithic, the Jomon, the Central Highlands, obsidian sources, the Hiroppara wetland, microfossil analysis