



RESEARCH PROJECT

PRE-COLUMBIAN GOLD AND COPPER IN COSTA RICA

Costa Rica boasts a wealth of pre-Columbian gold, copper and guanín (gold and copper alloy; also tumbaga) artefacts which strongly suggest mining activities prior to the Spanish arrival. Due to its central location at the heart of the region, Costa Rica was exposed to influences from both Mesoamerica and the isthmo-columbian area. Metal extraction and metal working technology are generally assumed to have advanced to Costa Rica from the south. The country's abundant deposits – (paleo-) placers and gold-quartz veins, and copper ores of hydrothermal origin - however not only provide an ample source of metals but also open up the possibility of autonomously developed mining and metallurgical practices.

The transdisciplinary research project is carried out in cooperation with Costa Rican scientists and combines mining archaeological prospections of the gold and copper mining districts with geochemical analysis of ores and metal artefacts, and feature analysis of metal objects. The main aims are to:

- localise potential remains of pre-Columbian metal production, i.e. mining, beneficiation and processing sites,
- establish the mineralogical and geochemical signatures (trace elements, Pb isotopes) of the different ore types and mining districts,
- reconstruct potential artefact raw material sources and technological choices, regarding the alloy composition, for example generating advantageous material characteristics and the nature of the ore, i.e. native or smelted copper and primary or secondary gold, and
- identify stylistic groups for a chronological and/or regional evaluation and to investigate a potential correlation with their composition and raw material provenance. Our results will provide a sound mining archaeological and archaeometallurgical basis for future research in Central America and constitute an excellent starting point for a re-appraisal of the cultural impact of early metallurgy and its development.

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Project Information

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Project management

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Involved research departments	Archaeometallurgy
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